

**UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
WACO DIVISION**

Ocean Semiconductor LLC,

Plaintiff

v.

Renesas Electronics Corporation and Renesas
Electronics America, Inc. (“Renesas”)

Defendant.

Civil Action No.: 6:20-cv-1213

JURY TRIAL DEMANDED

PATENT CASE

COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff Ocean Semiconductor LLC (“Ocean Semiconductor” or “Plaintiff”) files this Complaint against Renesas Electronics Corporation (“Renesas Electronics”) and Renesas Electronics America, Inc. (“Renesas America”) (collectively “Renesas” or “Defendants”), seeking damages and other relief for patent infringement, and alleges with knowledge to its own acts, and on information and belief as to other matters, as follows:

NATURE OF THE ACTION

1. This is an action for patent infringement arising under the Patent Laws of the United States, 35 U.S.C. § 1 *et seq.*

THE PARTIES

2. Plaintiff Ocean Semiconductor is a limited liability company organized and existing under the laws of the State of Delaware, and its registered agent for service of process in Delaware is Rita Carnevale, 717 N. Union Street, Wilmington, DE 19805.

3. On information and belief, Renesas Electronics is a corporation organized under the laws of Japan, with its principal place of business at Toyosu Foresia, 3-2-24 Toyosu, Koto-ku, Tokyo 135-0061, Japan, and at 900 S. Capital of Texas Hwy, Las Cimas IV, Austin, TX 78746.

4. On information and belief, Renesas America is a Delaware corporation with a principal place of business at 1001 Murphy Ranch Road, Milpitas, CA 95035. On information and belief, Renesas America may be served through its registered agent, Corporation Service Company, 251 Little Falls Drive, Wilmington, DE 19808.

5. On information and belief, Renesas sells, offers to sell, and/or uses products and services throughout the United States, including in this judicial District, and introduces infringing products and services into the stream of commerce knowing that they would be sold and/or used in this judicial District and elsewhere in the United States.

6. Plaintiff Ocean Semiconductor is the assignee and owner of the patents at issue in this action: U.S. Patents Nos. 6,660,651, 6,907,305, 6,725,402, 6,968,248, 7,080,330, 6,836,691, and 8,676,538 (collectively, the “Asserted Patents”). Ocean Semiconductor holds all substantial rights, title, and interest in the Asserted Patents, including the exclusive right to sue Renesas for infringement and recover damages, including damages for past infringement.

7. Plaintiff Ocean Semiconductor seeks monetary damages and prejudgment interest for Defendant’s past and ongoing direct and indirect infringement of the Asserted Patents.

8. Defendants are semiconductor companies that design, develop, sell, offer to sell, and import into the United States semiconductor products in the communications, internet of things, automotive, computer, and consumer electronics industry (“Accused Products”).

9. Renesas, which has its own regular and established place of business in the United States (including a facility in Austin, Texas), produces or contracts with third-party semiconductor fabricators or foundries (“Renesas Foundry Partners”) that own, operate, or control semiconductor fabrication plants (“fabs”) within and/or outside of the United States (“International Facilities”) to produce the Accused Products. One such Renesas Foundry Partner is Taiwan Semiconductor Manufacturing Company Ltd. (“TSMC”). TSMC has a contractual partnership with Renesas to design, develop, or manufacture semiconductor products including integrated circuits for Renesas. *See, e.g.*, “Renesas Electronics and TSMC Announce 28nm MCU Collaboration for Next-Generation Green and Autonomous Vehicles,” *available at* <https://www.renesas.com/cn/en/about/press-center/news/2016/news20160901.html> (last accessed October 27, 2020); *see also* “TSMC to make automotive chips for Renesas,” *available at* <https://asia.nikkei.com/Asia300/TSMC-to-make-automotive-chips-for-Renesas> (last accessed October 27, 2020).

10. On information and belief, Renesas (directly or through one or more of its Foundry Partners such as TSMC) also has a contractual relationship with Applied Materials, Inc. (“Applied Materials”) (*see e.g.*, Applied Materials’ job posting for “TSMC F15 E3 project,” *available at* http://www.mse.ntu.edu.tw/attachments/article/154/AMT_Summer%20Student%20Program_Job%20Post_2013.pdf (last accessed October 12, 2020)) and PDF Solutions Inc. (“PDF Solutions”) (*e.g.*, “Taiwan Semiconductor Manufacturing Company adopts PDF Solutions yield

improvement technology,” *available at* <https://www.edn.com/taiwan-semiconductor-manufacturing-company-adopts-pdf-solutions-yield-improvement-technology/> (last accessed Oct. 12, 2020); *see also* “Exensio: Big Data in the Fab,” *available at* <https://semiwiki.com/eda/4351-exensio-big-data-in-the-fab/> (last accessed Oct. 12, 2020); *see also* Renesas’ job posting hiring “Product Engineer-Intern” with “Exensio” knowledge, *available at* <https://jobs.renesas.com/job/San-Jose-Product-Engineer-Intern-CA-95101/613809601/> (Oct. 12, 2020)), and one or more of the Renesas Foundry Partners (e.g., TSMC) employ Applied Materials’ semiconductor fabrication or manufacturing equipment, platforms, and/or framework, including Applied Materials’ E3 system, including the E3 factory advanced/automation process control (“APC”) hardware and/or software (collectively, “E3 system”), PDF Solutions’ Exensio hardware and/or software (collectively, “Exensio system”), and/or other in-house or third-party advanced/automation process control system and platform hardware and/or software (e.g., with similar technical and functional features) to design, develop, and/or manufacture Defendant Renesas’s semiconductor devices, including integrated circuits.

11. Upon information and belief, TSMC employs Applied Materials’ and/or PDF Solutions’ semiconductor fabrication or manufacturing equipment, platforms, and/or framework (e.g., Applied Materials’ E3 system and/or PDF Solutions’ Exensio system) at its manufacturing facilities. Applied Materials has received supplier awards and recognition from TSMC. *See, e.g.,* “TSMC Recognizes Outstanding Suppliers at Supply Chain Management Forum,” *available at* <https://pr.tsmc.com/english/news/1873> (last accessed October 12, 2020). On information and belief, TSMC also employs PDF Solutions’ Exensio system at TSMC’s manufacturing facilities.

12. On information and belief, Renesas (directly or through its Renesas Foundry Partners such as TSMC) employs Applied Materials’ E3 system and/or PDF Solutions’ Exensio

system to develop or manufacture one or more systems, products, and/or devices for importation into the United States for use, sale, and/or offer for sale in this District and throughout the United States, including, but not limited to, microcontrollers and microprocessors (e.g., RL78 Family of 8/16-bit Ultra-Low Energy MCUs, RX Family of 32-bit High Power Efficiency MCUs, RH850 Family, RZ Family of 64-Bit & 32-Bit Arm-Based High-End MPUs, V850 Family, 78K Family, R8C Family, M16C Family (R32C / M32C / M16C), M32R Family, H8/S/SX Family, 720 Family, 740 Family, SuperH RISC engine Family, H8 Super Low Power, PLC MCU, Renesas RA Family of 32-bit MCUs with Arm Cortex-M Core, RE Family, QzROM (740/720 Family), M16C (M32C/M16C) Family, R8C Family, 7700 Family, and SuperH RISC engine Family and MCUs with Arm Cortex-M Core Implemented on Silicon on Thin Buried Oxide (SOTB)), amplifiers and buffers (e.g., CA3XXX, CA5XXX, EL2XXX, EL4XXX, EL5XXX, EL8XXX, HA-2XXX, HA-5XXX, HFA11XX, ICL7XXX, ISL28XXX, ISL55XXX, ISL59XXX, READ23XXXSP, and UPCXXXXXX), analog products (e.g., switches and multiplexers), clocks and timing products (e.g., application-specific clocks, clock distribution, clock generation, and crystal oscillators), interface & connectivity products (e.g., wireless modules, switches and hubs, and wireless modules), audio and video products (e.g., ISL54XXX), automotive products (e.g., Automotive System-on-Chip (SOC), Ambient Light Sensors, Analog ICs, Car Audio ICs, Battery Management Systems, CAN Transceivers, Discrete/Power MOSFETs for Automotive, Display ICs, Intelligent Power Devices, Interface ICs, LSI for Automotive, Microcontrollers (RH850), Microcontrollers (RL78/F1x), Power Management (e.g., Power Management ICs for RH850, Power Supply ICs for R-Car, Switches & Multiplexers, Video ICs, Discrete Power Devices, regulators, MOSFETs and Motor Drivers, PMICs, and wireless power devices), ICs for Communications and Mobile Devices (e.g., SH-MobileR, SH-MobileR2, EMMA Mobile, SH-

Mobile MT1, and R-Mobile A1), sensor products (e.g., flow sensors, gas sensors, humidity sensors, light & proximity sensors, position sensors, sensor signal conditioners, and optical sensors such as ISL76671), data converters (e.g., HI-565A, HI-565A/883, and HI5XXX), ICs for Industrial Automation (R-IN) (e.g. R-IN32M3, R-IN32M4-CL2, TPS-1, EC-1, R-IN32M4-CL3, and R-IN32M3), ICs for Motor Driver/Actuator Driver, Interface devices (e.g., Bus Buffers, RS-485, RS-422, RS-232, Signal Integrity ICs, Dual Protocol RS-485, RS-232 Transceivers, and Industrial Network Transceivers), Legacy MCUs (e.g., 80C/82C Microprocessors & Peripherals), memory (e.g., ultra-fast Quad Data Rate SRAMs, SRAMs, EEPROM & PROM, MRAMS, FIFO products, interface products, and standard logic), Optoelectronics, power management devices (e.g., RAJ240XXXDNP), RF products (e.g., modulators, demodulators, transistor arrays, beamformers, mixers, switches, attenuators, VGAs, synthesizers and PLLs), Renesas USB Power Delivery Family (e.g., Renesas USB Power Delivery Family Features and U30 Group), Secure MCUs (e.g., AE-5 Series and RS-4 Series), Smart Analog devices (e.g., Smart Analog IC101, IC300, IC301, IC500, IC501, and IC502), and space and harsh environment devices (e.g., μ PD720115, μ PD720201, μ PD720202, μ PD720210, μ PD720211, M66291, R8A66593, and R8A66597), products manufactured at 28nm and 40nm technology node by TSMC for Renesas such as eFlash and MCUs, microprocessors, sensors, radars, power efficiency systems, electronic control units, and automotive products, and similar systems, products, devices, and integrated circuits (“Renesas APC Products”).

13. On information and belief, Renesas (directly or through its Renesas Foundry Partners such as TSMC) uses Applied Materials’ E3 system and/or PDF Solutions’ Exensio system to design, develop, or manufacture the Renesas APC Products for importation into the United States for use, sale, and/or offer for sale in this district and throughout the United States.

14. On information and belief, Renesas (directly and/or through its Renesas Foundry Partners) has a contractual relationship with ASML Holding N.V. and/or its subsidiaries (“ASML”) (*see, e.g.*, LinkedIn Profile for Spencer Lin, Operation Manager at ASML, *available at* <https://www.linkedin.com/in/spencer-lin-a48a0082/> (last visited Oct. 12, 2020); LinkedIn Profile for Leo Li, Product Engineer at ASML, *available at* <https://www.linkedin.com/in/leo-li-74222754/> (last visited Oct. 12, 2020); LinkedIn Profile for Tsung Ming C., Applicant Engineer at ASML, *available at* <https://www.linkedin.com/in/tsung-ming-c-49b4b77/> (last visited Oct. 12, 2020); LinkedIn Profile for Vince Liu, Product Manager at ASML, *available at* <https://www.linkedin.com/in/vince-liu-4820b149/> (last visited Oct. 12, 2020); and LinkedIn Profile for Henry Yeh, Applicant Engineer at ASML, *available at* <https://www.linkedin.com/in/heavyyeh/> (last visited Oct. 12, 2020)), and that Renesas, and/or one or more of the Renesas Foundry Partners (e.g., TSMC), employs ASML’s semiconductor fabrication or manufacturing equipment and/or platforms (e.g., ASML’s TWINSCAN system hardware and software or “TWINSCAN”) to design, develop, and/or manufacture Defendant Renesas’s semiconductor products and devices, such as microcontrollers and microprocessors (e.g., RL78 Family of 8/16-bit Ultra-Low Energy MCUs, RX Family of 32-bit High Power Efficiency MCUs, RH850 Family, RZ Family of 64-Bit & 32-Bit Arm-Based High-End MPUs, V850 Family, 78K Family, R8C Family, M16C Family (R32C / M32C / M16C), M32R Family, H8/S/SX Family, 720 Family, 740 Family, SuperH RISC engine Family, H8 Super Low Power, PLC MCU, Renesas RA Family of 32-bit MCUs with Arm Cortex-M Core, RE Family, QzROM (740/720 Family), M16C (M32C/M16C) Family, R8C Family, 7700 Family, and SuperH RISC engine Family and MCUs with Arm Cortex-M Core Implemented on Silicon on Thin Buried Oxide (SOTB)), amplifiers and buffers (e.g., CA3XXX, CA5XXX, EL2XXX, EL4XXX,

EL5XXX, EL8XXX, HA-2XXX, HA-5XXX, HFA11XX, ICL7XXX, ISL28XXX, ISL55XXX, ISL59XXX, READ23XXXSP, and UPCXXXXXXX), analog products (e.g., switches and multiplexers), clocks and timing products (e.g., application-specific clocks, clock distribution, clock generation, and crystal oscillators), interface & connectivity products (e.g., wireless modules, switches and hubs, and wireless modules), audio and video products (e.g., ISL54XXX), automotive products (e.g., Automotive System-on-Chip (SOC), Ambient Light Sensors, Analog ICs, Car Audio ICs, Battery Management Systems, CAN Transceivers, Discrete/Power MOFETs for Automotive, Display ICs, Intelligent Power Devices, Interface ICs, LSI for Automotive, Microcontrollers (RH850), Microcontrollers (RL78/F1x), Power Management (e.g., Power Management ICs for RH850, Power Supply ICs for R-Car, Switches & Multiplexers, Video ICs, Discrete Power Devices, regulators, MOSFETs and Motor Drivers, PMICs, and wireless power devices), ICs for Communications and Mobile Devices (e.g., SH-MobileR, SH-MobileR2, EMMA Mobile, SH-Mobile MT1, and R-Mobile A1), sensor products (e.g., flow sensors, gas sensors, humidity sensors, light & proximity sensors, position sensors, sensor signal conditioners, and optical sensors such as ISL76671), data converters (e.g., HI-565A, HI-565A/883, and HI5XXX), ICs for Industrial Automation (R-IN) (e.g. R-IN32M3, R-IN32M4-CL2, TPS-1, EC-1, R-IN32M4-CL3, and R-IN32M3), ICs for Motor Driver/Actuator Driver, Interface devices (e.g., Bus Buffers, RS-485, RS-422, RS-232, Signal Integrity ICs, Dual Protocol RS-485, RS-232 Transceivers, and Industrial Network Transceivers), Legacy MCUs (e.g., 80C/82C Microprocessors & Peripherals), memory (e.g., ultra-fast Quad Data Rate SRAMs, SRAMs, EEPROM & PROM, MRAMS, FIFO products, interface products, and standard logic), Optoelectronics, power management devices (e.g., RAJ240XXXDNP), RF products (e.g., modulators, demodulators, transistor arrays, beamformers, mixers, switches,

attenuators, VGAs, synthesizers and PLLs), Renesas USB Power Delivery Family (e.g., Renesas USB Power Delivery Family Features and U30 Group), Secure MCUs (e.g., AE-5 Series and RS-4 Series), Smart Analog devices (e.g., Smart Analog IC101, IC300, IC301, IC500, IC501, and IC502), and space and harsh environment devices (e.g., μ PD720115, μ PD720201, μ PD720202, μ PD720210, μ PD720211, M66291, R8A66593, and R8A66597), products manufactured at 28nm and 40nm technology node by TSMC for Renesas such as eFlash and MCUs, microprocessors, sensors, radars, power efficiency systems, electronic control units, and automotive products, and similar systems, products, devices, and integrated circuits (“Renesas TWINSCAN Products”). *See, e.g.*, “BRIEF-Taiwan’s UMC orders equipment from ASML for T\$657 mln,” *available at* <https://www.reuters.com/article/umc-corp-asml-holding-brief/brief-taiwans-umc-orders-equipment-from-asml-for-t657-mln-idUSS7N0P700I20140728> (last accessed October 12, 2020); *see also* “UMC buys equipment from ASML,” *available at* <https://www.digitimes.com/news/a20160621PM200.html> (last accessed October 12, 2020); *see also* “ASML apparently beats Nikon for UMC’s huge 300-mm scanner order,” *available at* <https://www.eetimes.com/asml-apparently-beats-nikon-for-umcs-huge-300-mm-scanner-order/> (last accessed October 12, 2020); *see also* “ASML shares gain after reports of large TSMC order,” *available at* <https://seekingalpha.com/news/3636158-asml-shares-gain-after-reports-of-large-tsmc-order> (last visited Oct. 12, 2020); *see also* “ASML’s NXE Platform Performance,” *available at* <http://euvlsymposium.lbl.gov/pdf/2013/pres/RudyPeeters.pdf> (last visited Oct. 12, 2020).

15. On information and belief, Renesas (directly or through its Renesas Foundry Partners such as TSMC) uses ASML’s TWINSCAN platform and/or its software to design,

develop, or manufacture the Renesas TWINSKAN Products for importation into the United States for use, sale, and/or offer for sale in this district and throughout the United States.

16. On information and belief, Renesas (directly and/or through its Renesas Foundry Partners such as TSMC) has a contractual relationship with ASML and/or its subsidiaries (*see, e.g., LinkedIn Profile for Spencer Lin, Operation Manager at ASML, available at* <https://www.linkedin.com/in/spencer-lin-a48a0082/> (last visited Oct. 12, 2020); LinkedIn Profile for Leo Li, Product Engineer at ASML, *available at* <https://www.linkedin.com/in/leo-li-74222754/> (last visited Oct. 12, 2020); LinkedIn Profile for Tsung Ming C., Applicant Engineer at ASML, *available at* <https://www.linkedin.com/in/tsung-ming-c-49b4b77/> (last visited Oct. 12, 2020); LinkedIn Profile for Vince Liu, Product Manager at ASML, *available at* <https://www.linkedin.com/in/vince-liu-4820b149/> (last visited Oct. 12, 2020); and LinkedIn Profile for Henry Yeh, Applicant Engineer at ASML, *available at* <https://www.linkedin.com/in/heavyyeh/> (last visited Oct. 12, 2020)), and that Renesas, and/or one or more of the Renesas Foundry Partners (e.g., TSMC), employs ASML's metrology and inspection systems (e.g., ASML's YieldStar metrology and inspection system hardware and software or "YieldStar system") to design, develop, and/or manufacture Defendant Renesas's semiconductor products and devices, such as microcontrollers and microprocessors (e.g., RL78 Family of 8/16-bit Ultra-Low Energy MCUs, RX Family of 32-bit High Power Efficiency MCUs, RH850 Family, RZ Family of 64-Bit & 32-Bit Arm-Based High-End MPUs, V850 Family, 78K Family, R8C Family, M16C Family (R32C / M32C / M16C), M32R Family, H8/S/SX Family, 720 Family, 740 Family, SuperH RISC engine Family, H8 Super Low Power, PLC MCU, Renesas RA Family of 32-bit MCUs with Arm Cortex-M Core, RE Family, QzROM (740/720 Family), M16C (M32C/M16C) Family, R8C Family, 7700 Family, and SuperH RISC

engine Family and MCUs with Arm Cortex-M Core Implemented on Silicon on Thin Buried Oxide (SOTB)), amplifiers and buffers (e.g., CA3XXX, CA5XXX, EL2XXX, EL4XXX, EL5XXX, EL8XXX, HA-2XXX, HA-5XXX, HFA11XX, ICL7XXX, ISL28XXX, ISL55XXX, ISL59XXX, READ23XXXSP, and UPCXXXXXX), analog products (e.g., switches and multiplexers), clocks and timing products (e.g., application-specific clocks, clock distribution, clock generation, and crystal oscillators), interface & connectivity products (e.g., wireless modules, switches and hubs, and wireless modules), audio and video products (e.g., ISL54XXX), automotive products (e.g., Automotive System-on-Chip (SOC), Ambient Light Sensors, Analog ICs, Car Audio ICs, Battery Management Systems, CAN Transceivers, Discrete/Power MOFETs for Automotive, Display ICs, Intelligent Power Devices, Interface ICs, LSI for Automotive, Microcontrollers (RH850), Microcontrollers (RL78/F1x), Power Management (e.g., Power Management ICs for RH850, Power Supply ICs for R-Car, Switches & Multiplexers, Video ICs, Discrete Power Devices, regulators, MOSFETs and Motor Drivers, PMICs, and wireless power devices), ICs for Communications and Mobile Devices (e.g., SH-MobileR, SH-MobileR2, EMMA Mobile, SH-Mobile MT1, and R-Mobile A1), sensor products (e.g., flow sensors, gas sensors, humidity sensors, light & proximity sensors, position sensors, sensor signal conditioners, and optical sensors such as ISL76671), data converters (e.g., HI-565A, HI-565A/883, and HI5XXX), ICs for Industrial Automation (R-IN) (e.g. R-IN32M3, R-IN32M4-CL2, TPS-1, EC-1, R-IN32M4-CL3, and R-IN32M3), ICs for Motor Driver/Actuator Driver, Interface devices (e.g., Bus Buffers, RS-485, RS-422, RS-232, Signal Integrity ICs, Dual Protocol RS-485, RS-232 Transceivers, and Industrial Network Transceivers), Legacy MCUs (e.g., 80C/82C Microprocessors & Peripherals), memory (e.g., ultra-fast Quad Data Rate SRAMs, SRAMs, EEPROM & PROM, MRAMS, FIFO products, interface products, and

standard logic), Optoelectronics, power management devices (e.g., RAJ240XXXDNP), RF products (e.g., modulators, demodulators, transistor arrays, beamformers, mixers, switches, attenuators, VGAs, synthesizers and PLLs), Renesas USB Power Delivery Family (e.g., Renesas USB Power Delivery Family Features and U30 Group), Secure MCUs (e.g., AE-5 Series and RS-4 Series), Smart Analog devices (e.g., Smart Analog IC101, IC300, IC301, IC500, IC501, and IC502), and space and harsh environment devices (e.g., μ PD720115, μ PD720201, μ PD720202, μ PD720210, μ PD720211, M66291, R8A66593, and R8A66597), products manufactured at 28nm and 40nm technology node by TSMC for Renesas such as eFlash and MCUs, microprocessors, sensors, radars, power efficiency systems, electronic control units, and automotive products, and similar systems, products, devices, and integrated circuits (“Renesas YieldStar Products”). *See, e.g.*, “BRIEF-Taiwan’s UMC orders equipment from ASML for T\$657 mln,” *available at* <https://www.reuters.com/article/umc-corp-asml-holding-brief/brief-taiwans-umc-orders-equipment-from-asml-for-t657-mln-idUSS7N0P700I20140728> (last accessed October 12, 2020); *see also* “UMC buys equipment from ASML,” *available at* <https://www.digitimes.com/news/a20160621PM200.html> (last accessed October 12, 2020); *see also* “ASML apparently beats Nikon for UMC’s huge 300-mm scanner order,” *available at* <https://www.eetimes.com/asml-apparently-beats-nikon-for-umcs-huge-300-mm-scanner-order/> (last accessed October 12, 2020); *see also* “ASML shares gain after reports of large TSMC order,” *available at* <https://seekingalpha.com/news/3636158-asml-shares-gain-after-reports-of-large-tsmc-order> (last visited Oct. 12, 2020); *see also* “ASML’s NXE Platform Performance,” *available at* <http://euvlsymposium.lbl.gov/pdf/2013/pres/RudyPeeters.pdf> (last visited Oct. 12, 2020).

17. On information and belief, Renesas (directly or through its Renesas Foundry Partners such as TSMC) uses ASML's YieldStar platform and/or its software to design, develop, or manufacture the Renesas YieldStar Products for importation into the United States for use, sale, and/or offer for sale in this district and throughout the United States.

18. On information and belief, Defendant Renesas, directly and/or through one or more of the Renesas Foundry Partners (e.g., TSMC), employs camLine's semiconductor fabrication or manufacturing solutions, including camLine's LineWorks production automation solution (e.g., LineWorks eCap and LineWorks PULSE modules) (collectively, "LineWorks system") and/or other in-house or third-party scheduling and dispatching platform hardware and/or software (e.g., with similar technical and functional features) to design, develop, and/or manufacture Defendant Renesas's semiconductor devices, including integrated circuits. *See, e.g., "Agile and Intelligent Operations," available at* https://www.tsmc.com/english/dedicatedFoundry/manufacturing/intelligent_operations.htm (last accessed Oct. 12, 2020); *see also* "Manufacturing Excellence," *available at* https://www.tsmc.com/download/ir/annualReports/2012/english/e_5_3.html (last accessed Oct. 12, 2020).

19. Upon information and belief, TSMC employs camLine's LineWorks system at TSMC's manufacturing facilities. *See, e.g., "LineWorks Product," available at* <https://www.all-electronics.de/wp-content/uploads/migrated/document/97654/infodirectccamlineproductcatalog.pdf> (last accessed Oct. 12, 2020) ("Customers ... > TSMC").

20. On information and belief, Defendant Renesas (directly or through its Renesas Foundry Partners such as TSMC) employs camLine's LineWorks system and/or other in-house

or third-party scheduling and dispatching platform hardware and/or software (e.g., with similar technical and functional features) at TSMC's manufacturing facilities. On information and belief, Defendant Renesas employs similar in-house or proprietary scheduling and dispatching platform (with technical and functional features similar to camLine's LineWorks system) at its own manufacturing facilities.

21. On information and belief, Defendant Renesas (directly or through its Renesas Foundry Partners such as TSMC) employs camLine's LineWorks system and/or other similar Renesas proprietary or third-party scheduling and dispatching platform hardware and/or software (e.g., with similar technical and functional features) to design, develop or manufacture one or more systems, products, and/or devices for importation into the United States for use, sale, and/or offer for sale in this District and throughout the United States, including, but not limited to, semiconductor products and devices, such as microcontrollers and microprocessors (e.g., RL78 Family of 8/16-bit Ultra-Low Energy MCUs, RX Family of 32-bit High Power Efficiency MCUs, RH850 Family, RZ Family of 64-Bit & 32-Bit Arm-Based High-End MPUs, V850 Family, 78K Family, R8C Family, M16C Family (R32C / M32C / M16C), M32R Family, H8/S/SX Family, 720 Family, 740 Family, SuperH RISC engine Family, H8 Super Low Power, PLC MCU, Renesas RA Family of 32-bit MCUs with Arm Cortex-M Core, RE Family, QzROM (740/720 Family), M16C (M32C/M16C) Family, R8C Family, 7700 Family, and SuperH RISC engine Family and MCUs with Arm Cortex-M Core Implemented on Silicon on Thin Buried Oxide (SOTB)), amplifiers and buffers (e.g., CA3XXX, CA5XXX, EL2XXX, EL4XXX, EL5XXX, EL8XXX, HA-2XXX, HA-5XXX, HFA11XX, ICL7XXX, ISL28XXX, ISL55XXX, ISL59XXX, READ23XXXSP, and UPCXXXXXX), analog products (e.g., switches and multiplexers), clocks and timing products (e.g., application-specific clocks, clock distribution,

clock generation, and crystal oscillators), interface & connectivity products (e.g., wireless modules, switches and hubs, and wireless modules), audio and video products (e.g., ISL54XXX), automotive products (e.g., Automotive System-on-Chip (SOC), Ambient Light Sensors, Analog ICs, Car Audio ICs, Battery Management Systems, CAN Transceivers, Discrete/Power MOFETs for Automotive, Display ICs, Intelligent Power Devices, Interface ICs, LSI for Automotive, Microcontrollers (RH850), Microcontrollers (RL78/F1x), Power Management (e.g., Power Management ICs for RH850, Power Supply ICs for R-Car, Switches & Multiplexers, Video ICs, Discrete Power Devices, regulators, MOSFETs and Motor Drivers, PMICs, and wireless power devices), ICs for Communications and Mobile Devices (e.g., SH-MobileR, SH-MobileR2, EMMA Mobile, SH-Mobile MT1, and R-Mobile A1), sensor products (e.g., flow sensors, gas sensors, humidity sensors, light & proximity sensors, position sensors, sensor signal conditioners, and optical sensors such as ISL76671), data converters (e.g., HI-565A, HI-565A/883, and HI5XXX), ICs for Industrial Automation (R-IN) (e.g. R-IN32M3, R-IN32M4-CL2, TPS-1, EC-1, R-IN32M4-CL3, and R-IN32M3), ICs for Motor Driver/Actuator Driver, Interface devices (e.g., Bus Buffers, RS-485, RS-422, RS-232, Signal Integrity ICs, Dual Protocol RS-485, RS-232 Transceivers, and Industrial Network Transceivers), Legacy MCUs (e.g., 80C/82C Microprocessors & Peripherals), memory (e.g., ultra-fast Quad Data Rate SRAMs, SRAMs, EEPROM & PROM, MRAMS, FIFO products, interface products, and standard logic), Optoelectronics, power management devices (e.g., RAJ240XXXDNP), RF products (e.g., modulators, demodulators, transistor arrays, beamformers, mixers, switches, attenuators, VGAs, synthesizers and PLLs), Renesas USB Power Delivery Family (e.g., Renesas USB Power Delivery Family Features and U30 Group), Secure MCUs (e.g., AE-5 Series and RS-4 Series), Smart Analog devices (e.g., Smart Analog IC101, IC300, IC301, IC500, IC501,

and IC502), and space and harsh environment devices (e.g., μ PD720115, μ PD720201, μ PD720202, μ PD720210, μ PD720211, M66291, R8A66593, and R8A66597), products manufactured at 28nm and 40nm technology node by TSMC for Renesas such as eFlash and MCUs, microprocessors, sensors, radars, power efficiency systems, electronic control units, and automotive products, and similar systems, products, devices, and integrated circuits (“Renesas Scheduling Products”).

22. On information and belief, Defendant Renesas (directly or through its Renesas Foundry Partners such as TSMC) uses camLine’s LineWorks system and/or other Renesas in-house or third-party scheduling and dispatching platform hardware and/or software (e.g., with similar technical and functional features) to design, develop, or manufacture the Renesas Scheduling Products for importation into the United States for use, sale, and/or offer for sale in this district and throughout the United States.

23. Defendant Renesas works with third parties to design and/or develop third party products, such as internet of things products, communications products, automotive products, computing products, and embedded products that include one or more Renesas APC Products, Renesas TWINSKAN Products, Renesas YieldStar Products, and/or Renesas Scheduling Products (“Third Party Products”). For example, on information and belief, Renesas is the world’s largest supplier of automotive microprocessors. Renesas assists third parties from the automotive industry, directly or through others, to import the Third Party Products into the United States and offer to sell, and sell, such Third Party Products in the United States.

JURISDICTION AND VENUE

24. This is an action for patent infringement arising under the patent laws of the United States, 35 U.S.C. § 1, *et seq.*

25. This Court has subject matter jurisdiction under 28 U.S.C. §§ 1331 and 1338(a).

26. Renesas is subject to this Court's general and specific personal jurisdiction because Renesas has sufficient minimum contacts within the State of Texas and this District, pursuant to due process and/or the Texas Long Arm Statute, Tex. Civ. Prac. & Rem. Code § 17.042. On information and belief, Renesas contracted with one or more Texas residents in this District and one or both parties performed the contract at least in part in the State of Texas and this District; Renesas committed the tort of patent infringement in State of Texas and this District; Renesas purposefully availed itself of the privileges of conducting business in the State of Texas and in this District; Renesas regularly conducts and solicits business within the State of Texas and within this District; Renesas recruits residents of the State of Texas and this District for employment inside or outside the State of Texas; Plaintiff's causes of action arise directly from Renesas's business contacts and other activities in the State of Texas and this District; and Renesas designs, develops, manufactures, distributes, makes available, imports, sells and offers to sell products and services throughout the United States, including in this judicial District, and introduces infringing products and services that into the stream of commerce knowing that they would be used and sold in this judicial district and elsewhere in the United States.

27. Venue is proper in this judicial district under 28 U.S.C. § 1391 and 28 U.S.C. § 1400(b) at least because Defendant Renesas Electronics Corporation is a foreign corporation and is subject to personal jurisdiction in this District and/or has regularly conducted business in this District, and because certain of the acts complained of herein occurred in this District. Venue is also proper for Defendant Renesas Electronics America at least because Renesas Electronics America has a regular and established place of business in this District, including at least at 900 S. Capital of Texas Hwy, Las Cimas IV, Austin, TX 78746.

28. Additionally, Renesas—directly or through intermediaries (including distributors, retailers, and others), subsidiaries, alter egos, and/or agents—ships, distributes, offers for sale, and/or sells their products in the United States and this District. Renesas has purposefully and voluntarily placed one or more of its products into the stream of commerce that infringe the Asserted Patents with the awareness and/or intent that they will be purchased by consumers and businesses in this District. Defendant Renesas knowingly and purposefully ships infringing products into, and within, this District through an established distribution channel. These infringing products have been, and continue to be, purchased by consumers and businesses in this District.

THE PATENTS-IN-SUIT

29. On November 8, 2001, U.S. Patent Application No. 10/010,463 was filed at the USPTO (“the ’463 Application”). The ’463 Application was duly examined and issued as U.S. Patent No. 6,660,651 (“the ’651 patent”), entitled “Adjustable Wafer Stage, and a Method and System for Performing Process Operations Using Same” on December 9, 2003. A true and correct copy of the ’651 patent is attached hereto as Exhibit A.

30. Ocean Semiconductor is the owner of the ’651 patent and has the full and exclusive right to bring actions and recover past, present, and future damages for Renesas’s infringement of the ’651 patent.

31. The inventions of the ’651 patent resolve technical problems related to cross-wafer variations or non-uniformity characteristics in semiconductor wafers that are caused by different deposition and etch processes performed during semiconductor manufacturing. For example, the ’651 patent provides a process tool that includes an adjustable wafer stage that allows positioning or re-positioning of the wafer stage, such as raising, lowering, and varying a

tilt of the surface of the wafer stage, in order to effectuate the deposition rates of semiconductor materials formed on a wafer.

32. The claims of the '651 patent do not merely recite the performance of some business practice known from the pre-Internet world along with the requirement to perform it on the Internet. Instead, the claims of the '651 patent recite one or more inventive concepts that are rooted in computerized semiconductor manufacturing or fabrication technologies, and overcome problems specifically arising in the realm of computerized semiconductor manufacturing or fabrication technologies.

33. The '651 patent is directed to an invention that is not merely the routine or conventional use of the Internet or a generic computer. Instead, it is directed to a process tool with an adjustable wafer stage that offers customizable positioning features to facilitate raising, lowering, or tilting of the wafer stage. This design allows surface adjustment of a wafer surface on which semiconductor materials are deposited to ensure a surface profile that is uniform across the surface of each wafer. The '651 patent claims thus specify how a semiconductor manufacturing system is manipulated to yield a desired result.

34. Accordingly, each claim of the '651 patent recites a combination of elements sufficient to ensure that the claim in practice amounts to significantly more than a patent on an ineligible concept.

35. On April 30, 2002, U.S. Patent Application No. 10/135,145 was filed at the USPTO (the "'145 Application"). The '145 Application was duly examined and issued as U.S. Patent No. 6,907,305 ("the '305 Patent"), entitled "Agent Reactive Scheduling in an Automated Manufacturing Environment" on June 14, 2005. A true and correct copy of the '305 patent is attached hereto as Exhibit B.

36. Ocean Semiconductor is the owner of the '305 patent and has the full and exclusive right to bring actions and recover past, present, and future damages for Renesas's infringement of the '305 patent.

37. The inventions of the '305 patent resolve technical problems related to utilization of process tools and scheduling and execution control of factory control systems. For example, the '305 patent describes agents that reactively schedule, initiate, and execute activities, such as lot transport and processing, in response to certain events occurring during the semiconductor manufacturing process.

38. The claims of the '305 patent do not merely recite the performance of some business practice known from the pre-Internet world along with the requirement to perform it on the Internet. Instead, the claims of the '305 patent recite one or more inventive concepts that are rooted in computerized semiconductor manufacturing or fabrication technologies, and overcome problems specifically arising in the realm of computerized semiconductor manufacturing or fabrication technologies.

39. The '305 patent is directed to an invention that is not merely the routine or conventional use of the Internet or a generic computer. Instead, it is directed to a manufacturing system that facilitates the reactive scheduling of events resulting from certain factory state changes occurred within the process flow, such as a downtime occurrence, a machine becoming available, a processing chamber being down, a lot departing a machine, a preventative maintenance and equipment qualification being detected, and a wafer being completed. This system, in turn, allows efficient management of factory control systems and optimizes wafer throughput. The '305 patent claims thus specify how a semiconductor manufacturing system is manipulated to yield a desired result.

40. Accordingly, each claim of the '305 patent recites a combination of elements sufficient to ensure that the claim in practice amounts to significantly more than a patent on an ineligible concept.

41. On July 31, 2000, U.S. Patent Application No. 09/629,073 was filed at the USPTO ("the '073 Application"). The '073 Application was duly examined and issued as U.S. Patent No. 6,725,402 ("the '402 Patent"), entitled "Method and Apparatus for Fault Detection of a Processing Tool and Control Thereof Using an Advanced Process Control (APC) Framework" on April 20, 2004. A true and correct copy of the '402 patent is attached hereto as Exhibit C.

42. Ocean Semiconductor is the owner of the '402 patent and has the full and exclusive right to bring actions and recover past, present, and future damages for Renesas's infringement of the '402 patent.

43. The inventions of the '402 patent resolve technical problems related to the delay in reporting manufacturing faults during semiconductor manufacturing, which led to faulty semiconductor devices being produced. For example, the '402 patent describes systems and methods for shutting down a process tool or halting a manufacturing process in the presence of a manufacturing fault.

44. The claims of the '402 patent do not merely recite the performance of some business practice known from the pre-Internet world along with the requirement to perform it on the Internet. Instead, the claims of the '402 patent recite one or more inventive concepts that are rooted in computerized semiconductor manufacturing or fabrication technologies, and overcome problems specifically arising in the realm of computerized semiconductor manufacturing or fabrication technologies.

45. The '402 patent is directed to an invention that is not merely the routine or conventional use of the Internet or a generic computer. Instead, it is directed to a fault detection system in a semiconductor manufacturing process to detect the presence of a manufacturing fault and perform corrective measures in an expedient manner. The '402 patent claims thus specify how a semiconductor manufacturing system is manipulated to yield a desired result.

46. Accordingly, each claim of the '402 patent recites a combination of elements sufficient to ensure that the claim in practice amounts to significantly more than a patent on an ineligible concept.

47. On June 13, 2005, U.S. Patent Application No. 11/151,098 was filed at the USPTO ("the '098 Application"). The '098 Application was duly examined and issued as U.S. Patent No. 6,968,248 ("the '248 Patent"), entitled "Agent Reactive Scheduling in an Automated Manufacturing Environment" on November 22, 2005. A true and correct copy of the '248 patent is attached hereto as Exhibit D.

48. Ocean Semiconductor is the owner of the '248 patent and has the full and exclusive right to bring actions and recover past, present, and future damages for Renesas's infringement of the '248 patent.

49. The inventions of the '248 patent resolve technical problems related to utilization of process tools and scheduling and execution control of factory control systems. For example, the '248 patent describes agents that reactively schedule, initiate, and execute activities, such as lot transport and processing, in response to certain events occurring during the semiconductor manufacturing process.

50. The claims of the '248 patent do not merely recite the performance of some business practice known from the pre-Internet world along with the requirement to perform it on

the Internet. Instead, the claims of the '248 patent recite one or more inventive concepts that are rooted in computerized semiconductor manufacturing or fabrication technologies, and overcome problems specifically arising in the realm of computerized semiconductor manufacturing or fabrication technologies.

51. The '248 patent is directed to an invention that is not merely the routine or conventional use of the Internet or a generic computer. Instead, it is directed to a manufacturing system that facilitates the reactive scheduling of events resulting from certain factory state changes occurred within the process flow, such as a downtime occurrence, a machine becoming available, a processing chamber being down, a lot departing a machine, a preventative maintenance and equipment qualification being detected, and a wafer being completed. This system, in turn, allows efficient management of factory control systems and optimizes wafer throughput. The '248 patent claims thus specify how a semiconductor manufacturing system is manipulated to yield a desired result.

52. Accordingly, each claim of the '248 patent recites a combination of elements sufficient to ensure that the claim in practice amounts to significantly more than a patent on an ineligible concept.

53. On March 5, 2003, U.S. Patent Application No. 10/379,738, was filed at the USPTO ("the '738 Application"). The '738 Application was duly examined and issued as U.S. Patent No. 7,080,330 ("the '330 patent"), entitled "Concurrent Measurement of Critical Dimension and Overlay in Semiconductor Manufacturing," on Jul. 18, 2006. A true and correct copy of the '330 patent is attached hereto as Exhibit E.

54. Ocean Semiconductor is the owner of the '330 patent and has the full and exclusive right to bring actions and recover past, present, and future damages for Renesas's infringement of the '330 patent.

55. The inventions of the '330 patent resolve technical problems related to forming integrated circuits without overlay errors. For example, the '330 patent describes a method that monitors and controls a semiconductor fabrication process that mitigate overlay errors and achieve desired critical dimensions.

56. The claims of the '330 patent do not merely recite the performance of some business practice known from the pre-Internet world along with the requirement to perform it on the Internet. Instead, the claims of the '330 patent recite one or more inventive concepts that are rooted in computerized semiconductor manufacturing or fabrication technologies, and overcome problems specifically arising in the realm of computerized semiconductor manufacturing or fabrication technologies.

57. The '330 patent is directed to an invention that is not merely the routine or conventional use of the Internet or a generic computer. Instead, it is directed to, for example, partitioning a wafer into grid blocks to facilitate concurrent measurements of critical dimensions and overlay as the wafer matriculates through the semiconductor fabrication processes in order to mitigate overlay errors and bring critical dimension within acceptable tolerances. The '330 patent claims thus specify how a semiconductor manufacturing process is manipulated to yield a desired result.

58. Accordingly, each claim of the '330 patent recites a combination of elements sufficient to ensure that the claim in practice amounts to significantly more than a patent on an ineligible concept.

59. On May 1, 2003, U.S. Patent Application No. 10/427,620, was filed at the USPTO (“the ’620 Application”). The ’620 Application was duly examined and issued as U.S. Patent No. 6,836,691 (“the ’691 patent”), entitled “Method and Apparatus for Filtering Metrology Data Based on Collection Purpose,” on Dec. 28, 2004. A true and correct copy of the ’691 patent is attached hereto as Exhibit F.

60. Ocean Semiconductor is the owner of the ’691 patent and has the full and exclusive right to bring actions and recover past, present, and future damages for Renesas’s infringement of the ’691 patent.

61. The inventions of the ’691 patent resolve technical problems related to a process controller collecting metrology data that does not accurately reflect the state of the fabrication process or the device(s) being manufactured. For example, the ’691 patent describes a method of generating context data for the metrology data and filtering the metrology data to improve the performance of the process controller by removing outlier data that exhibits variation from a source other than normal process variation.

62. The claims of the ’691 patent do not merely recite the performance of some business practice known from the pre-Internet world along with the requirement to perform it on the Internet. Instead, the claims of the ’691 patent recite one or more inventive concepts that are rooted in computerized semiconductor manufacturing or fabrication technologies, and overcome problems specifically arising in the realm of computerized semiconductor manufacturing or fabrication technologies.

63. The ’691 patent is directed to an invention that is not merely the routine or conventional use of the Internet or a generic computer. Instead, it is directed to, for example, a process controller that gathers and filters metrology data to remove data originated from non-

process sources of variation in order to, for example, accurately identify a fault detection. The '691 patent claims thus specify how a semiconductor manufacturing process is manipulated to yield a desired result.

64. Accordingly, each claim of the '691 patent recites a combination of elements sufficient to ensure that the claim in practice amounts to significantly more than a patent on an ineligible concept.

65. On Nov 2, 2004, U.S. Patent Application No. 10/979,309, was filed at the USPTO ("the '309 Application"). The '309 Application was duly examined and issued as U.S. Patent No. 8,676,538 ("the '538 patent"), entitled "Adjusting Weighting of a parameter Relating to Fault Detection Based on a Detected Fault," on Mar. 18, 2014. A true and correct copy of the '538 patent is attached hereto as Exhibit G.

66. Ocean Semiconductor is the owner of the '538 patent and has the full and exclusive right to bring actions and recover past, present, and future damages for Renesas's infringement of the '538 patent.

67. The inventions of the '538 patent resolve technical problems related to inaccurately detecting faults in semiconductor manufacturing processes. For example, the '691 patent describes a method for employing a dynamic weighting technique in fault detection analysis, including determining a relationship of a parameter relating to the fault detection analysis to a detected fault and adjusting a weighting associating with the parameter based upon the relationship of the parameter to the detected fault.

68. The claims of the '538 patent do not merely recite the performance of some business practice known from the pre-Internet world along with the requirement to perform it on the Internet. Instead, the claims of the '538 patent recite one or more inventive concepts that are

rooted in computerized semiconductor manufacturing or fabrication technologies, and overcome problems specifically arising in the realm of computerized semiconductor manufacturing or fabrication technologies.

69. The '538 patent is directed to an invention that is not merely the routine or conventional use of the Internet or a generic computer. Instead, it is directed to, for example, performing fault detection analyses using dynamic weighting processes to accurately assess faults associated with processing semiconductor wafers. The '538 patent claims thus specify how a semiconductor manufacturing process is manipulated to yield a desired result.

70. Accordingly, each claim of the '538 patent recites a combination of elements sufficient to ensure that the claim in practice amounts to significantly more than a patent on an ineligible concept.

COUNT I: INFRINGEMENT OF THE '651 PATENT

71. Ocean Semiconductor repeats and re-alleges the allegations of the above paragraphs as if fully set forth herein.

72. At least as of November 25, 2020, Ocean Semiconductor placed Renesas on actual notice of the '651 patent and actual notice that its actions constituted and continued to constitute infringement of the '651 patent. Renesas has had actual knowledge of the '651 patent and its own infringement of the '651 patent since at least that time.

73. On information and belief, Defendant Renesas has directly infringed and continues to infringe at least claim 19 of the '651 patent literally or under the doctrine of equivalents, by importing into the United States, and/or using, and/or selling, and/or offering for sale in the United States, without authority or license, integrated circuits that are designed, developed, fabricated, and/or manufactured using the ASML TWINSCAN system and/or similar

systems (e.g., with similar technical and functional features), and systems, products, and/or devices containing these integrated circuits including at least the Renesas TWINSKAN Products (“’651 Accused Products”) in violation of 35 U.S.C. § 271. The ’651 Accused Products are manufactured by a process including all of the limitations of at least claim 19 of the ’651 patent. Each such product includes an integrated circuit fabricated or manufactured using, for example, the ASML TWINSKAN system.

74. Discovery is expected to uncover the full extent of Renesas’s infringement of the ’651 patent beyond the ’651 Accused Products already identified herein.

75. Specifically, on information and belief, Renesas has directly infringed and continues to infringe at least claim 19 of the ’651 patent literally or under the doctrine of equivalents, by importing into the United States, and/or using, and/or selling, and/or offering for sale in the United States, without authority or license, the ’651 Accused Products, in violation of 35 U.S.C. § 271(g). On information and belief, Renesas imports the ’651 Accused Products into the United States for sales and distribution to customers located in the United States. On information and belief, Renesas sells and/or offers for sale the ’651 Accused Products in the United States. For example, Renesas provides direct sales through its own sales channels and/or its distributors or contract manufacturers and sells the ’651 Accused Products to businesses including original equipment manufacturers and electronic manufacturing service providers. On information and belief, these direct sales include sales of the ’651 Accused Products in the United States. On information and belief, Renesas offers the ’651 Accused Products for sale in the United States. For example, Renesas engages in sales, marketing, and contracting activity in the United States and/or with United States offices of its customers.

76. The '651 Accused Products are manufactured by a process including all of the limitations of at least claim 19 of the '651 patent. The '651 Accused Products are made by a claimed method. Each is an integrated circuit fabricated or manufactured using, for example, ASML's TWINSCAN system.

77. For example, during the manufacture of the '651 Accused Products, a process chamber is provided that includes a wafer stage having a surface that is adjustable. The surface of the wafer stage is adjusted by performing at least one of raising, lowering, and varying a tilt of the surface of the wafer stage. A wafer from which the '651 Accused Products are fabricated or manufactured is positioned after adjusting the wafer stage such that a process operation is performed on the wafer positioned on the wafer stage. On information and belief, Renesas, directly or through one of its Foundry Partners (e.g., TSMC), contracted with ASML to use this process to design, develop, or manufacture the '651 Accused Products.

78. Attached hereto as Exhibit H, and incorporated by reference herein, is a claim chart detailing how each of the '651 Accused Products is manufactured using the ASML TWINSCAN system by a Renesas Foundry Partner on behalf of Renesas or Renesas (to the extent that the ASML TWINSCAN system is used at Renesas's own manufacturing facilities) that satisfies each element of at least claim 19 of the '651 patent, literally or under the doctrine of equivalents.

79. On information and belief, the '651 Accused Products are neither materially changed by subsequent processes nor become trivial and nonessential components of another product.

80. On information and belief, at least as of November 25, 2020, Renesas has induced and continues to induce others, including its suppliers and contract manufacturers, to infringe

one or more claims of the '651 patent, including, but not limited to, claim 19, pursuant to 35 U.S.C. § 271(b), by actively encouraging others to import into the United States, and/or make, use, sell, and/or offer to sell in the United States, the '651 Accused Products or products containing the infringing semiconductor components of the '651 Accused Products, by actively inducing others to infringe the '651 patent by making, using, selling, offering for sale, marketing, advertising, and/or importing the Accused Products to their customers for use in downstream products that infringe, or were manufactured using processes that infringe, the '651 patent, and by instructing others to infringe the '651 patent.

81. For example, Renesas actively promotes the sale, use, and importation of the '651 Accused Products in marketing materials, technical specifications, data sheets, web pages on its website (e.g., <https://www.renesas.com/>), press releases, training tutorials, development and design tools, user manuals, and developer forums as well as at trade shows (e.g., the Consumer Technology Association's Consumer Electronics Show ("CES")) and through its sales and distribution channels that encourage infringing uses, sales, offers to sell, and importation of the '651 Accused Products. On information and belief, Renesas supplies customers with '651 Accused Products so that they may be used, sold, or offered for sale by those customers. On information and belief, these direct sales include sales to customers in the United States. Renesas additionally provides a wide range of technical support to customers, including product-specific technical support (e.g., <https://www.renesas.com/us/en/support/contact.html>) and discussion forums (e.g., <https://renesasrulz.com/>). Renesas also promotes, publicly on its website, uses of the '651 Accused Products by customers in the United States.

82. On information and belief, Renesas sells or offers for sale the '651 Accused Products to third parties that incorporate the '651 Accused Products into third party products ("the '651 Third Party Products").

83. On information and belief, Renesas assists third parties, directly and/or through intermediaries, in the development of the '651 Third Party Products and provides technical support and supports the sales of the '651 Third Party Products.

84. On information and belief, at least as of November 25, 2020, Renesas has induced and continues to induce third parties with specific intent or willful blindness to import, make, use, sell, and/or offer to sell '651 Third Party Products that include at least one '651 Accused Product fabricated or manufactured using the ASML TWINSCAN system, or similar systems (e.g., with similar technical and functional features), whose make, use, sale, offer for sale, or importation constitutes direct infringement of at least one claim of the '651 patent.

85. On information and belief, the '651 Third Party Products are imported into the United States for use, sale, and/or offer for sale in this District and throughout the United States ("Imported '651 Third Party Products").

86. On information and belief, to the extent any entity other than Renesas, including but not limited to any of Renesas's Foundry Partners or third-party importers, imports the '651 Accused Products and/or Imported '651 Third-Party Products into the United States for or on behalf of Renesas ("Third Party Importer"), Renesas is liable for inducement of infringement by the Third Party Importer. Renesas has encouraged the Third Party Importer to infringe the '651 patent and intended that it do so. This encouragement includes at least ordering or instructing the Third Party Importer to import the '651 Accused Products and/or '651 Third-Party Products into the United States, providing directions and other materials to the Third Party

Importer to enable such importation, and/or conditioning the receipt of benefits (included but not limited to payment) to the Third Party Importer on such importation. On information and belief, this behavior has continued since Defendant first became aware of the '651 patent and the infringement thereof.

87. On information and belief, to the extent any entity other than Renesas, including but not limited to any of Renesas's Foundry Partners, uses the patented method to fabricate or manufacture the '651 Accused Products and/or Imported '651 Third-Party Products in the United States for or on behalf of Renesas ("Third Party Manufacturer"), Renesas is liable for inducement of infringement by the Third Party Manufacturer. Renesas has encouraged the Third Party Manufacturer to infringe the '651 patent and intended that it do so. This encouragement includes, without limitation, ordering the '651 Accused Products from the Third Party Manufacturer since Defendant first became aware of the '651 patent and its infringement by the Third Party Manufacturer.

88. Renesas has benefitted and continues to benefit from the importation into the United States of the '651 Accused Products, '651 Third Party Products, and Imported '651 Third Party Products.

89. Ocean Semiconductor has suffered, and continues to suffer, damages as a result of Renesas's infringement of the '651 patent.

90. Renesas has continued to infringe the '651 patent since at least November 25, 2020, despite being on notice of the '651 patent and its infringement. Renesas has therefore infringed the '651 patent knowingly, willfully, deliberately, and in disregard of Plaintiff's patent rights since at least November 25, 2020, at least by performing acts of infringement with actual knowledge of its direct and indirect infringement or while remaining willfully blind to the fact of

its direct and indirect infringement. As a result of at least this conduct, Plaintiff is entitled to enhanced damages under 35 U.S.C. § 284 and to attorneys' fees and costs under 35 U.S.C. § 285.

91. Ocean Semiconductor reserves the right to modify its infringement theories as discovery progresses in this case. Ocean Semiconductor shall not be estopped or otherwise limited or restricted for purposes of its infringement contentions or its claim constructions by the claim charts that it provides with this Complaint. Ocean Semiconductor intends for the claim chart (Exhibit H) for the '651 patent to satisfy the notice requirements of Rule 8(a)(2) of the Federal Rule of Civil Procedure. The claim chart is not Ocean Semiconductor's preliminary or final infringement contentions or preliminary or final claim construction positions.

COUNT II: INFRINGEMENT OF THE '402 PATENT

92. Ocean Semiconductor repeats and re-alleges the allegations of the above paragraphs as if fully set forth herein.

93. At least as of November 25, 2020, Ocean Semiconductor placed Renesas on actual notice of the '402 patent and actual notice that its actions constituted and continued to constitute infringement of the '402 patent. Renesas has had actual knowledge of the '402 patent and its own infringement of the '402 patent since at least that time.

94. Renesas has directly infringed and continues to infringe at least claim 1 of the '402 patent literally or under the doctrine of equivalents, by importing into the United States, and/or using, and/or selling, and/or offering for sale in the United States, without authority or license, integrated circuits designed, developed, fabricated, and/or manufactured using Applied Materials' E3 system, PDF Solutions' Exensio system, and/or similar systems (e.g., with similar technical and functional features), and systems, products, and/or devices containing these integrated circuits including at least the Renesas APC Products ("402 Accused Products") in

violation of 35 U.S.C. § 271. The '402 Accused Products are manufactured by a process including all of the limitations of at least claim 1 of the '402 patent. Each such product includes an integrated circuit fabricated or manufactured using, for example, the Applied Materials E3 system and/or PDF Solutions' Exensio system.

95. Discovery is expected to uncover the full extent of Renesas's infringement of the '402 patent beyond the '402 Accused Products already identified herein.

96. Specifically, on information and belief, Renesas has directly infringed and continues to infringe at least claim 1 of the '402 patent literally or under the doctrine of equivalents, by importing into the United States, and/or using, and/or selling, and/or offering for sale in the United States, without authority or license, the '402 Accused Products, in violation of 35 U.S.C. § 271(g). On information and belief, Renesas imports the '402 Accused Products into the United States for sales and distribution to customers located in the United States. On information and belief, Renesas sells and/or offers for sale the '402 Accused Products in the United States. For example, Renesas provides direct sales through its own sales channels and/or its distributors or contract manufacturers and sells the '402 Accused Products to businesses including original equipment manufacturers and electronic manufacturing service providers. On information and belief, these direct sales include sales of the '402 Accused Products in the United States. On information and belief, Renesas offers the '402 Accused Products for sale in the United States. For example, Renesas engages in sales, marketing, and contracting activity in the United States and/or with United States offices of its customers.

97. The '402 Accused Products are manufactured by a process including all of the limitations of at least claim 1 of the '402 patent. The '402 Accused Products are made by a claimed method. Each is an integrated circuit fabricated or manufactured using, for example, the

Applied Materials E3 system and/or PDF Solutions' Exensio system. For example, during the manufacture of the '402 Accused Products (e.g., by Applied Materials' E3 system, PDF Solutions' Exensio system, or similar systems (e.g., with similar technical and functional features)), operational state data of a processing tool related to the manufacture of a processing piece (e.g., from which the '402 Accused Products are fabricated or manufactured) is received at a first interface. The state data from the first interface is sent to a fault detection unit, including sending the state data from the first interface to a data collection unit. The state data is accumulated at the data collection unit and translated from a first communications protocol to a second communications protocol compatible with the fault detection unit. The translated state data is sent from the data collection unit to the fault detection unit to determine if a fault condition exists with the processing tool based upon the state data received by the fault detection unit. Then, a predetermined action is performed on the processing tool in response to the presence of a fault condition, and an alarm signal indicative of the fault condition is sent to an advanced process control framework from the fault detection unit providing that a fault condition of the processing tool was determined by the fault detection unit. This manufacturing process also includes sending a signal by the framework to the first interface reflective of the predetermined action, and sending the accumulated state data from the data collection unit to the fault detection unit while a processing piece is being processed by the tool. On information and belief, Renesas, directly or through one of its Foundry Partners, contracted with Applied Materials and PDF Solutions to use this process to design, develop, or manufacture the '402 Accused Products.

98. Attached hereto as Exhibits I and J, and incorporated by reference herein, are claim charts detailing how each of the '402 Accused Products manufactured using the Applied

Materials E3 system and/or PDF Solutions' Exensio system by a Renesas Foundry Partner on behalf of Renesas (e.g., TSMC) or Renesas (to the extent that any one of such systems is used at Renesas's own manufacturing facilities) satisfies each element of at least claim 1 of the '402 patent, literally or under the doctrine of equivalents.

99. On information and belief, the '402 Accused Products are neither materially changed by subsequent processes nor become trivial and nonessential components of another product.

100. On information and belief, at least as of November 25, 2020, Renesas has induced and continues to induce others, including its suppliers and contract manufacturers, to infringe one or more claims of the '402 patent, including, but not limited to, claim 1, pursuant to 35 U.S.C. § 271(b), by actively encouraging others to import into the United States, and/or make, use, sell, and/or offer to sell in the United States, the '402 Accused Products or products containing the infringing semiconductor components of the '402 Accused Products, by actively inducing others to infringe the '402 patent by making, using, selling, offering for sale, marketing, advertising, and/or importing the Accused Products to their customers for use in downstream products that infringe, or were manufactured using processes that infringe, the '402 patent, and by instructing others to infringe the '402 patent.

101. For example, Renesas actively promotes the sale, use, and importation of the '402 Accused Products in marketing materials, technical specifications, data sheets, web pages on its website (e.g., <https://www.renesas.com/>), press releases, training tutorials, development and design tools, user manuals, and developer forums as well as at trade shows (e.g., the Consumer Technology Association's Consumer Electronics Show ("CES")) and through its sales and distribution channels that encourage infringing uses, sales, offers to sell, and importation of the

'402 Accused Products. On information and belief, Renesas supplies customers with '402 Accused Products so that they may be used, sold, or offered for sale by those customers. On information and belief, these direct sales include sales to customers in the United States. Renesas additionally provides a wide range of technical support to customers, including product-specific technical support (e.g., <https://www.renesas.com/us/en/support/contact.html>) and discussion forums (e.g., <https://renesasrulz.com/>). Renesas also promotes, publicly on its website, uses of the '402 Accused Products by customers in the United States.

102. On information and belief, Renesas sells or offers for sale the '402 Accused Products to third parties that incorporate the '402 Accused Products into third party products ("the '402 Third Party Products").

103. On information and belief, Renesas assists third parties, directly and/or through intermediaries, in the development and manufacture of the '402 Third Party Products and provides technical support and supports the sales of the '402 Third Party Products.

104. On information and belief, at least as of November 25, 2020, Renesas has induced and continues to induce third parties with specific intent or willful blindness to import, make, use, sell, and/or offer to sell '402 Third Party Products that include at least one '402 Accused Product fabricated or manufactured using the Applied Materials E3 system and/or PDF Solutions' Exensio system, or similar systems (e.g., with similar technical and functional features) whose make, use, sale, offer for sale, or importation constitutes direct infringement of at least one claim of the '402 patent.

105. On information and belief, the '402 Third Party Products are imported into the United States for use, sale, and/or offer for sale in this District and throughout the United States ("Imported '402 Third Party Products").

106. On information and belief, to the extent any entity other than Renesas, including but not limited to any of Renesas's Foundry Partners or third-party importers, imports the '402 Accused Products and/or Imported '402 Third-Party Products into the United States for or on behalf of Renesas ("Third Party Importer"), Renesas is liable for inducement of infringement by the Third Party Importer. Renesas has encouraged the Third Party Importer to infringe the '402 patent and intended that it do so. This encouragement includes at least ordering or instructing the Third Party Importer to import the '402 Accused Products and/or '402 Third-Party Products into the United States, providing directions and other materials to the Third Party Importer to enable such importation, and/or conditioning the receipt of benefits (included but not limited to payment) to the Third Party Importer on such importation. On information and belief, this behavior has continued since Defendant first became aware of the '402 patent and the infringement thereof.

107. On information and belief, to the extent any entity other than Renesas, including but not limited to any of Renesas's Foundry Partners, uses the patented method to fabricate or manufacture the '402 Accused Products and/or Imported '402 Third-Party Products in the United States for or on behalf of Renesas ("Third Party Manufacturer"), Renesas is liable for inducement of infringement by the Third Party Manufacturer. Renesas has encouraged the Third Party Manufacturer to infringe the '402 patent and intended that it do so. This encouragement includes, without limitation, ordering the '402 Accused Products from the Third Party Manufacturer since Defendant first became aware of the '402 patent and its infringement by the Third Party Manufacturer.

108. Renesas has benefitted and continues to benefit from the importation into the United States of the '402 Accused Products, '402 Third Party Products, and Imported '402 Third Party Products.

109. Ocean Semiconductor has suffered, and continues to suffer, damages as a result of Renesas's infringement of the '402 patent.

110. Renesas has continued to infringe the '402 patent since at least November 25, 2020, despite being on notice of the '402 patent and its infringement. Renesas has therefore infringed the '402 patent knowingly, willfully, deliberately, and in disregard of Plaintiff's patent rights since at least November 25, 2020, at least by performing acts of infringement with actual knowledge of its direct and indirect infringement or while remaining willfully blind to the fact of its direct and indirect infringement. As a result of at least this conduct, Plaintiff is entitled to enhanced damages under 35 U.S.C. § 284 and to attorneys' fees and costs under 35 U.S.C. § 285.

111. Ocean Semiconductor reserves the right to modify its infringement theories as discovery progresses in this case. Ocean Semiconductor shall not be estopped or otherwise limited or restricted for purposes of its infringement contentions or its claim constructions by the claim charts that it provides with this Complaint. Ocean Semiconductor intends the claim chart (Exhibits I and J) for the '402 patent to satisfy the notice requirements of Rule 8(a)(2) of the Federal Rule of Civil Procedure. The claim chart is not Ocean Semiconductor's preliminary or final infringement contentions or preliminary or final claim construction positions.

COUNT III: INFRINGEMENT OF THE '305 PATENT

112. Ocean Semiconductor repeats and re-alleges the allegations of the above paragraphs as if fully set forth herein.

113. At least as of November 25, 2020, Ocean Semiconductor placed Renesas on actual notice of the '305 patent and actual notice that its actions constituted and continued to constitute infringement of the '305 patent. Renesas has had actual knowledge of the '305 patent and its own infringement of the '305 patent since at least that time.

114. Renesas has directly infringed and continues to infringe at least claim 1 of the '305 patent literally or under the doctrine of equivalents, by importing into the United States, and/or using, and/or selling, and/or offering for sale in the United States, without authority or license, integrated circuits designed, developed, fabricated, and/or manufactured using camLine's LineWorks system or similar third-party scheduling and dispatching platform hardware and/or software (e.g., with similar technical and functional features), and systems, products, and/or devices containing these integrated circuits including at least the Renesas Scheduling Products ("305 Accused Products") in violation of 35 U.S.C. § 271. The '305 Accused Products are manufactured by a process including all of the limitations of at least claim 1 of the '305 patent. Each such product includes an integrated circuit fabricated or manufactured using, for example, camLine's LineWorks system.

115. Discovery is expected to uncover the full extent of Renesas's infringement of the '305 patent beyond the '305 Accused Products already identified herein.

116. Specifically, on information and belief, Renesas has directly infringed and continues to infringe at least claim 1 of the '305 patent literally or under the doctrine of equivalents, by importing into the United States, and/or using, and/or selling, and/or offering for sale in the United States, without authority or license, the '305 Accused Products, in violation of 35 U.S.C. § 271(g). On information and belief, Renesas imports the '305 Accused Products into the United States for sales and distribution to customers located in the United States. On

information and belief, Renesas sells and/or offers for sale the '305 Accused Products in the United States. For example, Renesas provides direct sales through its own sales channels and/or its distributors or contract manufacturers and sells the '305 Accused Products to businesses including original equipment manufacturers and electronic manufacturing service providers. On information and belief, these direct sales include sales of the '305 Accused Products in the United States. On information and belief, Renesas offers the '305 Accused Products for sale in the United States. For example, Renesas engages in sales, marketing, and contracting activity in the United States and/or with United States offices of its customers.

117. The '305 Accused Products are manufactured by a process including all of the limitations of at least claim 1 of the '305 patent. For example, during the manufacture of the '305 Accused Products (e.g., via camLine's LineWorks system, or similar Renesas in-house, proprietary, or third party scheduling and dispatching systems (e.g., with similar technical and functional features)), an occurrence of a predetermined event is detected in a process flow and a software scheduling agent is notified of the occurrence. An action is reactively scheduled from the software scheduling agent responsive to the detection of the predetermined event. An appointment is proactively scheduled with which the predetermined event is associated. On information and belief, Renesas, directly or through one of its Foundry Partners, contracted with camLine to use this process to design, develop, or manufacture the '305 Accused Products.

118. Attached hereto as Exhibit K, and incorporated by reference herein, is a claim chart detailing how each of the '305 Accused Products manufactured using camLine's LineWorks system by a Renesas Foundry Partner on behalf of Renesas (e.g., TSMC) or Renesas (to the extent that camLine's LineWorks system or similar Renesas in-house, proprietary, or third party scheduling and dispatching systems (e.g., with similar technical and functional

features)) is used at Renesas's own manufacturing facilities) satisfies each element of at least claim 1 of the '305 patent, literally or under the doctrine of equivalents.

119. On information and belief, the '305 Accused Products are neither materially changed by subsequent processes nor become trivial and nonessential components of another product.

120. On information and belief, at least as of November 25, 2020, Renesas has induced and continues to induce others, including its suppliers and contract manufacturers, to infringe one or more claims of the '305 patent, including, but not limited to, claim 1, pursuant to 35 U.S.C. § 271(b), by actively encouraging others to import into the United States, and/or make, use, sell, and/or offer to sell in the United States, the '305 Accused Products or products containing the infringing semiconductor components of the '305 Accused Products, by actively inducing others to infringe the '305 patent by making, using, selling, offering for sale, marketing, advertising, and/or importing the Accused Products to their customers for use in downstream products that infringe, or were manufactured using processes that infringe, the '305 patent, and by instructing others to infringe the '305 patent.

121. For example, Renesas actively promotes the sale, use, and importation of the '305 Accused Products in marketing materials, technical specifications, data sheets, web pages on its website (e.g., <https://www.renesas.com/>), press releases, training tutorials, development and design tools, user manuals, and developer forums as well as at trade shows (e.g., the Consumer Technology Association's Consumer Electronics Show ("CES")) and through its sales and distribution channels that encourage infringing uses, sales, offers to sell, and importation of the '305 Accused Products. On information and belief, Renesas supplies customers with '305 Accused Products so that they may be used, sold, or offered for sale by those customers. On

information and belief, these direct sales include sales to customers in the United States.

Renesas additionally provides a wide range of technical support to customers, including product-specific technical support (e.g., <https://www.renesas.com/us/en/support/contact.html>) and discussion forums (e.g., <https://renesasrulz.com/>). Renesas also promotes, publicly on its website, uses of the '305 Accused Products by customers in the United States.

122. On information and belief, Renesas sells or offers for sale the '305 Accused Products to third parties that incorporate the '305 Accused Products into third party products ("the '305 Third Party Products").

123. On information and belief, Renesas assists third parties, directly and/or through intermediaries, in the development and manufacture of the '305 Third Party Products and provides technical support and supports the sales of the '305 Third Party Products.

124. On information and belief, at least as of November 25, 2020, Renesas has induced and continues to induce third parties with specific intent or willful blindness to import, make, use, sell, and/or offer to sell '305 Third Party Products that include at least one '305 Accused Product fabricated or manufactured using camLine's LineWorks system, or similar systems (e.g., with similar technical and functional features), whose make, use, sale, offer for sale, or importation constitutes direct infringement of at least one claim of the '305 patent.

125. On information and belief, the '305 Third Party Products are imported into the United States for use, sale, and/or offer for sale in this District and throughout the United States ("Imported '305 Third Party Products").

126. On information and belief, to the extent any entity other than Renesas, including but not limited to any of Renesas's Foundry Partners or third-party importers, imports the '305 Accused Products and/or Imported '305 Third-Party Products into the United States for or on

behalf of Renesas (“Third Party Importer”), Renesas is liable for inducement of infringement by the Third Party Importer. Renesas has encouraged the Third Party Importer to infringe the ’305 patent and intended that it do so. This encouragement includes at least ordering or instructing the Third Party Importer to import the ’305 Accused Products and/or ’305 Third-Party Products into the United States, providing directions and other materials to the Third Party Importer to enable such importation, and/or conditioning the receipt of benefits (included but not limited to payment) to the Third Party Importer on such importation. On information and belief, this behavior has continued since Defendant first became aware of the ’305 patent and the infringement thereof.

127. On information and belief, to the extent any entity other than Renesas, including but not limited to any of Renesas’s Foundry Partners, uses the patented method to fabricate or manufacture the ’305 Accused Products and/or Imported ’305 Third-Party Products in the United States for or on behalf of Renesas (“Third Party Manufacturer”), Renesas is liable for inducement of infringement by the Third Party Manufacturer. Renesas has encouraged the Third Party Manufacturer to infringe the ’305 patent and intended that it do so. This encouragement includes, without limitation, ordering the ’305 Accused Products from the Third Party Manufacturer since Defendant first became aware of the ’305 patent and its infringement by the Third Party Manufacturer.

128. Renesas has benefitted and continues to benefit from the importation into the United States of the ’305 Accused Products, ’305 Third Party Products, and Imported ’305 Third Party Products.

129. Ocean Semiconductor has suffered, and continues to suffer, damages as a result of Renesas’s infringement of the ’305 patent.

130. Renesas has continued to infringe the '305 patent since at least November 25, 2020, despite being on notice of the '305 patent and its infringement. Renesas has therefore infringed the '305 patent knowingly, willfully, deliberately, and in disregard of Plaintiff's patent rights since at least November 25, 2020, at least by performing acts of infringement with actual knowledge of its direct and indirect infringement or while remaining willfully blind to the fact of its direct and indirect infringement. As a result of at least this conduct, Plaintiff is entitled to enhanced damages under 35 U.S.C. § 284 and to attorneys' fees and costs under 35 U.S.C. § 285.

131. Ocean Semiconductor reserves the right to modify its infringement theories as discovery progresses in this case. Ocean Semiconductor shall not be estopped or otherwise limited or restricted for purposes of its infringement contentions or its claim constructions by the claim charts that it provides with this Complaint. Ocean Semiconductor intends the claim chart (Exhibit K) for the '305 patent to satisfy the notice requirements of Rule 8(a)(2) of the Federal Rule of Civil Procedure. The claim chart is not Ocean Semiconductor's preliminary or final infringement contentions or preliminary or final claim construction positions

COUNT IV: INFRINGEMENT OF THE '248 PATENT

132. Ocean Semiconductor repeats and re-alleges the allegations of the above paragraphs as if fully set forth herein.

133. At least as of November 25, 2020, Ocean Semiconductor placed Renesas on actual notice of the '248 patent and actual notice that its actions constituted and continued to constitute infringement of the '248 patent. Renesas has had actual knowledge of the '248 patent and its own infringement of the '248 patent since at least that time.

134. Renesas has directly infringed and continues to infringe at least claim 1 of the '248 patent literally or under the doctrine of equivalents, by importing into the United States,

and/or using, and/or selling, and/or offering for sale in the United States, without authority or license, integrated circuits designed, developed, fabricated, and/or manufactured using camLine's LineWorks system and/or other similar Renesas in-house, proprietary, or third-party scheduling and dispatching system hardware and/or software (e.g., with similar technical and functional features), and systems, products, and/or devices containing these integrated circuits including at least the Renesas Scheduling Products ("’248 Accused Products") in violation of 35 U.S.C. § 271. The ’248 Accused Products are manufactured by a process including all of the limitations of at least claim 1 of the ’248 patent. Each such product includes an integrated circuit fabricated or manufactured using, for example, camLine's LineWorks system.

135. Discovery is expected to uncover the full extent of Renesas's infringement of the ’248 patent beyond the ’248 Accused Products already identified herein.

136. Specifically, on information and belief, Renesas has directly infringed and continues to infringe at least claim 1 of the ’248 patent literally or under the doctrine of equivalents, by importing into the United States, and/or using, and/or selling, and/or offering for sale in the United States, without authority or license, the ’248 Accused Products, in violation of 35 U.S.C. § 271(g). On information and belief, Renesas imports the ’248 Accused Products into the United States for sales and distribution to customers located in the United States. On information and belief, Renesas sells and/or offers for sale the ’248 Accused Products in the United States. For example, Renesas provides direct sales through its own sales channels and/or its distributors or contract manufacturers and sells the ’248 Accused Products to businesses including original equipment manufacturers and electronic manufacturing service providers. On information and belief, these direct sales include sales of the ’248 Accused Products in the United States. On information and belief, Renesas offers the ’248 Accused Products for sale in

the United States. For example, Renesas engages in sales, marketing, and contracting activity in the United States and/or with United States offices of its customers.

137. The '248 Accused Products are manufactured by a process including all of the limitations of at least claim 1 of the '248 patent. For example, during the manufacture of the '248 Accused Products (e.g., via camLine's LineWorks system, or similar Renesas in-house, proprietary, or third party scheduling and dispatching systems (e.g., with similar technical and functional features)), an occurrence of a predetermined event is automatically detected in an integrated, automated process flow. A software scheduling agent is automatically notified of the occurrence; and an action is reactively scheduled from the software scheduling agent responsive to the detection of the predetermined event. An appointment is proactively scheduled with which the predetermined event is associated, including proactively scheduling the appointment from the software scheduling agent. On information and belief, Renesas, directly or through one of its Foundry Partners, contracted with camLine to use this process to design, develop, or manufacture the '248 Accused Products.

138. Attached hereto as Exhibit L, and incorporated by reference herein, is a claim chart detailing how each of the '248 Accused Products manufactured using camLine's LineWorks system by a Renesas Foundry Partner on behalf of Renesas (e.g., TSMC) or Renesas (to the extent that camLine's LineWorks system or similar Renesas in-house or proprietary system (with similar technical and functional features) is used at Renesas's own manufacturing facilities) satisfies each element of at least claim 1 of the '248 patent, literally or under the doctrine of equivalents.

139. On information and belief, the '248 Accused Products are neither materially changed by subsequent processes nor become trivial and nonessential components of another product.

140. On information and belief, at least as of November 25, 2020, Renesas has induced and continues to induce others, including its suppliers and contract manufacturers, to infringe one or more claims of the '248 patent, including, but not limited to, claim 1, pursuant to 35 U.S.C. § 271(b), by actively encouraging others to import into the United States, and/or make, use, sell, and/or offer to sell in the United States, the '248 Accused Products or products containing the infringing semiconductor components of the '248 Accused Products, by actively inducing others to infringe the '248 patent by making, using, selling, offering for sale, marketing, advertising, and/or importing the Accused Products to their customers for use in downstream products that infringe, or were manufactured using processes that infringe, the '248 patent, and by instructing others to infringe the '248 patent.

141. For example, Renesas actively promotes the sale, use, and importation of the '248 Accused Products in marketing materials, technical specifications, data sheets, web pages on its website (e.g., <https://www.renesas.com/>), press releases, training tutorials, development and design tools, user manuals, and developer forums as well as at trade shows (e.g., the Consumer Technology Association's Consumer Electronics Show ("CES")) and through its sales and distribution channels that encourage infringing uses, sales, offers to sell, and importation of the '248 Accused Products. On information and belief, Renesas supplies customers with '248 Accused Products so that they may be used, sold, or offered for sale by those customers. On information and belief, these direct sales include sales to customers in the United States. Renesas additionally provides a wide range of technical support to customers, including product-

specific technical support (e.g., <https://www.renesas.com/us/en/support/contact.html>) and discussion forums (e.g., <https://renesasrulz.com/>). Renesas also promotes, publicly on its website, uses of the '248 Accused Products by customers in the United States.

142. On information and belief, Renesas sells or offers for sale the '248 Accused Products to third parties that incorporate the '248 Accused Products into third party products ("the '248 Third Party Products").

143. On information and belief, Renesas assists third parties, directly and/or through intermediaries, in the development and manufacture of the '248 Third Party Products and provides technical support and supports the sales of the '248 Third Party Products.

144. On information and belief, at least as of November 25, 2020, Renesas has induced and continues to induce third parties with specific intent or willful blindness to import, make, use, sell, and/or offer to sell '248 Third Party Products that include at least one '248 Accused Product fabricated or manufactured using camLine's LineWorks system, or similar systems (e.g., with similar technical and functional features), whose make, use, sale, offer for sale, or importation constitutes direct infringement of at least one claim of the '248 patent.

145. On information and belief, the '248 Third Party Products are imported into the United States for use, sale, and/or offer for sale in this District and throughout the United States ("Imported '248 Third Party Products").

146. Renesas has benefitted and continues to benefit from the importation into the United States of the Imported '248 Third Party Products.

147. On information and belief, to the extent any entity other than Renesas, including but not limited to any of Renesas's Foundry Partners or third-party importers, imports the '248 Accused Products and/or Imported '248 Third-Party Products into the United States for or on

behalf of Renesas (“Third Party Importer”), Renesas is liable for inducement of infringement by the Third Party Importer. Renesas has encouraged the Third Party Importer to infringe the ’248 patent and intended that it do so. This encouragement includes at least ordering or instructing the Third Party Importer to import the ’248 Accused Products and/or ’248 Third-Party Products into the United States, providing directions and other materials to the Third Party Importer to enable such importation, and/or conditioning the receipt of benefits (included but not limited to payment) to the Third Party Importer on such importation. On information and belief, this behavior has continued since Defendant first became aware of the ’248 patent and the infringement thereof.

148. On information and belief, to the extent any entity other than Renesas, including but not limited to any of Renesas’s Foundry Partners, uses the patented method to fabricate or manufacture the ’248 Accused Products and/or Imported ’248 Third-Party Products in the United States for or on behalf of Renesas (“Third Party Manufacturer”), Renesas is liable for inducement of infringement by the Third Party Manufacturer. Renesas has encouraged the Third Party Manufacturer to infringe the ’248 patent and intended that it do so. This encouragement includes, without limitation, ordering the ’248 Accused Products from the Third Party Manufacturer since Defendant first became aware of the ’248 patent and its infringement by the Third Party Manufacturer.

149. Ocean Semiconductor has suffered, and continues to suffer, damages as a result of Renesas’s infringement of the ’248 patent.

150. Renesas has continued to infringe the ’248 patent since at least November 25, 2020, despite being on notice of the ’248 patent and its infringement. Renesas has therefore infringed the ’248 patent knowingly, willfully, deliberately, and in disregard of Plaintiff’s patent

rights since at least November 25, 2020, at least by performing acts of infringement with actual knowledge of its direct and indirect infringement or while remaining willfully blind to the fact of its direct and indirect infringement. As a result of at least this conduct, Plaintiff is entitled to enhanced damages under 35 U.S.C. § 284 and to attorneys' fees and costs under 35 U.S.C. § 285.

151. Ocean Semiconductor reserves the right to modify its infringement theories as discovery progresses in this case. Ocean Semiconductor shall not be estopped or otherwise limited or restricted for purposes of its infringement contentions or its claim constructions by the claim charts that it provides with this Complaint. Ocean Semiconductor intends the claim chart (Exhibit L) for the '248 patent to satisfy the notice requirements of Rule 8(a)(2) of the Federal Rule of Civil Procedure. The claim chart is not Ocean Semiconductor's preliminary or final infringement contentions or preliminary or final claim construction positions.

COUNT V: INFRINGEMENT OF THE '330 PATENT

152. Ocean Semiconductor repeats and re-alleges the allegations of the above paragraphs as if fully set forth herein.

153. At least as of November 25, 2020, Ocean Semiconductor placed Renesas on actual notice of the '330 patent and actual notice that its actions constituted and continued to constitute infringement of the '330 patent. Renesas has had actual knowledge of the '330 patent and its own infringement of the '330 patent since at least that time.

154. Renesas has directly infringed and continues to infringe at least claim 19 of the '330 patent literally or under the doctrine of equivalents, by importing into the United States, and/or using, and/or selling, and/or offering for sale in the United States, without authority or license, integrated circuits that are designed, developed, fabricated, and/or manufactured using the ASML YieldStar metrology and inspection system or platform and/or similar systems (e.g.,

with similar technical and functional features), and systems, products, and/or devices containing these integrated circuits including at least the Renesas YieldStar Products (“’330 Accused Products”) in violation of 35 U.S.C. § 271. The ’330 Accused Products are manufactured by a process including all of the limitations of at least claim 19 of the ’330 patent. Each such product includes an integrated circuit fabricated or manufactured using, for example, the ASML YieldStar metrology and inspection system or platform.

155. Discovery is expected to uncover the full extent of Renesas’s infringement of the ’330 patent beyond the ’330 Accused Products already identified herein.

156. On information and belief, Renesas has directly infringed and continues to infringe at least claim 19 of the ’330 patent literally or under the doctrine of equivalents, by importing into the United States, and/or using, and/or selling, and/or offering for sale in the United States, without authority or license, the ’330 Accused Products, in violation of 35 U.S.C. § 271(g). On information and belief, Renesas imports the ’330 Accused Products into the United States for sales and distribution to customers located in the United States. On information and belief, Renesas sells and/or offers for sale the ’330 Accused Products in the United States. For example, Renesas provides direct sales through its own sales channels and/or its distributors or contract manufacturers and sells the ’330 Accused Products to businesses including original equipment manufacturers and electronic manufacturing service providers. On information and belief, these direct sales include sales of the ’330 Accused Products in the United States. On information and belief, Renesas offers the ’330 Accused Products for sale in the United States. For example, Renesas engages in sales, marketing, and contracting activity in the United States and/or with United States offices of its customers.

157. The '330 Accused Products are manufactured by a process including all of the limitations of at least claim 19 of the '330 patent. The '330 Accused Products are made by a claimed method. Each is an integrated circuit fabricated or manufactured using, for example, ASML's YieldStar metrology and inspection system hardware and software.

158. For example, during the manufacture of the '330 Accused Products, a plurality of wafers undergoing the fabrication process is provided. The plurality of wafers are mapped into one or more logical grids comprising one or more portions in which a grating structure for use in concurrent measurements is formed. Concurrently, one or more critical dimensions and overlay in a wafer undergoing the fabrication process are measured. It is determined if one or more of the critical dimensions are outside of acceptable tolerances, and whether an overlay error is occurring. Control data based upon one or more concurrent measurements is developed when at least one of an overlay error is occurring and one or more of the critical dimensions fall outside of acceptable tolerances. The control data is fed forward or backward to adjust one or more fabrication components or one or more operating parameters associated with the fabrication components when at least one of an overlay error is occurring and one or more of the critical dimensions fall outside of acceptable tolerances to mitigate overlay error and/or to bring critical dimension within acceptable tolerances. On information and belief, Renesas, directly or through one of its Foundry Partners (e.g., TSMC), contracted with ASML to use this process to design, develop, or manufacture the '330 Accused Products.

159. Attached hereto as Exhibit M, and incorporated by reference herein, is a claim chart detailing how each of the '330 Accused Products is manufactured using the ASML YieldStar metrology and inspection system or platform by a Renesas Foundry Partner on behalf of Renesas or Renesas (to the extent that the ASML YieldStar metrology and inspection system

or platform is used at Renesas's own manufacturing facilities) that satisfies each element of at least claim 19 of the '330 patent, literally or under the doctrine of equivalents.

160. On information and belief, the '330 Accused Products are neither materially changed by subsequent processes nor become trivial and nonessential components of another product.

161. On information and belief, at least as of November 25, 2020, Renesas has induced and continues to induce others, including its suppliers and contract manufacturers, to infringe one or more claims of the '330 patent, including, but not limited to, claim 19, pursuant to 35 U.S.C. § 271(b), by actively encouraging others to import into the United States, and/or make, use, sell, and/or offer to sell in the United States, the '330 Accused Products or products containing the infringing semiconductor components of the '330 Accused Products, by actively inducing others to infringe the '330 patent by making, using, selling, offering for sale, marketing, advertising, and/or importing the Accused Products to their customers for use in downstream products that infringe, or were manufactured using processes that infringe, the '330 patent, and by instructing others to infringe the '330 patent.

162. For example, Renesas actively promotes the sale, use, and importation of the '330 Accused Products in marketing materials, technical specifications, data sheets, web pages on its website (e.g., <https://www.renesas.com/>), press releases, training tutorials, development and design tools, user manuals, and developer forums as well as at trade shows (e.g., the Consumer Technology Association's Consumer Electronics Show ("CES")) and through its sales and distribution channels that encourage infringing uses, sales, offers to sell, and importation of the '330 Accused Products. On information and belief, Renesas supplies customers with '330 Accused Products so that they may be used, sold, or offered for sale by those customers. On

information and belief, these direct sales include sales to customers in the United States.

Renesas additionally provides a wide range of technical support to customers, including product-specific technical support (e.g., <https://www.renesas.com/us/en/support/contact.html>) and discussion forums (e.g., <https://renesasrulz.com/>). Renesas also promotes, publicly on its website, uses of the '330 Accused Products by customers in the United States.

163. On information and belief, Renesas sells or offers for sale the '330 Accused Products to third parties that incorporate the '330 Accused Products into third party products ("the '330 Third Party Products").

164. On information and belief, Renesas assists third parties, directly and/or through intermediaries, in the development of the '330 Third Party Products and provides technical support and supports the sales of the '330 Third Party Products.

165. On information and belief, at least as of November 25, 2020, Renesas has induced and continues to induce third parties with specific intent or willful blindness to import, make, use, sell, and/or offer to sell '330 Third Party Products that include at least one '330 Accused Product fabricated or manufactured using the ASML YieldStar metrology and inspection system or platform, or similar systems (e.g., with similar technical and functional features), whose make, use, sale, offer for sale, or importation constitutes direct infringement of at least one claim of the '330 patent.

166. On information and belief, the '330 Third Party Products are imported into the United States for use, sale, and/or offer for sale in this District and throughout the United States ("Imported '330 Third Party Products").

167. On information and belief, to the extent any entity other than Renesas, including but not limited to any of Renesas's Foundry Partners or third-party importers, imports the '330

Accused Products and/or Imported '330 Third-Party Products into the United States for or on behalf of Renesas ("Third Party Importer"), Renesas is liable for inducement of infringement by the Third Party Importer. Renesas has encouraged the Third Party Importer to infringe the '330 patent and intended that it do so. This encouragement includes at least ordering or instructing the Third Party Importer to import the '330 Accused Products and/or '330 Third-Party Products into the United States, providing directions and other materials to the Third Party Importer to enable such importation, and/or conditioning the receipt of benefits (included but not limited to payment) to the Third Party Importer on such importation. On information and belief, this behavior has continued since Defendant first became aware of the '330 patent and the infringement thereof.

168. On information and belief, to the extent any entity other than Renesas, including but not limited to any of Renesas's Foundry Partners, uses the patented method to fabricate or manufacture the '330 Accused Products and/or Imported '330 Third-Party Products in the United States for or on behalf of Renesas ("Third Party Manufacturer"), Renesas is liable for inducement of infringement by the Third Party Manufacturer. Renesas has encouraged the Third Party Manufacturer to infringe the '330 patent and intended that it do so. This encouragement includes, without limitation, ordering the '330 Accused Products from the Third Party Manufacturer since Defendant first became aware of the '330 patent and its infringement by the Third Party Manufacturer.

169. Renesas has benefitted and continues to benefit from the importation into the United States of the '330 Accused Products, '330 Third Party Products, and Imported '330 Third Party Products.

170. Ocean Semiconductor has suffered, and continues to suffer, damages as a result of Renesas's infringement of the '330 patent.

171. Renesas has continued to infringe the '330 patent since at least November 25, 2020, despite being on notice of the '330 patent and its infringement. Renesas has therefore infringed the '330 patent knowingly, willfully, deliberately, and in disregard of Plaintiff's patent rights since at least November 25, 2020, at least by performing acts of infringement with actual knowledge of its direct and indirect infringement or while remaining willfully blind to the fact of its direct and indirect infringement. As a result of at least this conduct, Plaintiff is entitled to enhanced damages under 35 U.S.C. § 284 and to attorneys' fees and costs under 35 U.S.C. § 285.

172. Ocean Semiconductor reserves the right to modify its infringement theories as discovery progresses in this case. Ocean Semiconductor shall not be estopped or otherwise limited or restricted for purposes of its infringement contentions or its claim constructions by the claim charts that it provides with this Complaint. Ocean Semiconductor intends for the claim chart (Exhibit M) for the '330 patent to satisfy the notice requirements of Rule 8(a)(2) of the Federal Rule of Civil Procedure. The claim chart is not Ocean Semiconductor's preliminary or final infringement contentions or preliminary or final claim construction positions.

COUNT VI: INFRINGEMENT OF THE '691 PATENT

173. Ocean Semiconductor repeats and re-alleges the allegations of the above paragraphs as if fully set forth herein.

174. At least as of November 25, 2020, Ocean Semiconductor placed Renesas on actual notice of the '691 patent and actual notice that its actions constituted and continued to constitute infringement of the '691 patent. Renesas has had actual knowledge of the '691 patent and its own infringement of the '691 patent since at least that time.

175. Renesas has directly infringed and continues to infringe at least claim 1 of the '691 patent literally or under the doctrine of equivalents, by importing into the United States, and/or using, and/or selling, and/or offering for sale in the United States, without authority or license, integrated circuits designed, developed, fabricated, and/or manufactured using Applied Materials' E3 system and/or PDF Solutions' Exensio system, or similar systems (e.g., with similar technical and functional features), and systems, products, and/or devices containing these integrated circuits including at least the Renesas APC Products ("'691 Accused Products") in violation of 35 U.S.C. § 271. The '691 Accused Products are manufactured by a process including all of the limitations of at least claim 1 of the '691 patent. Each such product includes an integrated circuit fabricated or manufactured using, for example, Applied Materials' E3 system and/or PDF Solutions' Exensio system.

176. Discovery is expected to uncover the full extent of Renesas's infringement of the '691 patent beyond the '691 Accused Products already identified herein.

177. On information and belief, Renesas has directly infringed and continues to infringe at least claim 1 of the '691 patent literally or under the doctrine of equivalents, by importing into the United States, and/or using, and/or selling, and/or offering for sale in the United States, without authority or license, the '691 Accused Products, in violation of 35 U.S.C. § 271(g). On information and belief, Renesas imports the '691 Accused Products into the United States for sales and distribution to customers located in the United States. On information and belief, Renesas sells and/or offers for sale the '691 Accused Products in the United States. For example, Renesas provides direct sales through its own sales channels and/or its distributors or contract manufacturers and sells the '691 Accused Products to businesses including original equipment manufacturers and electronic manufacturing service providers. On information and

belief, these direct sales include sales of the '691 Accused Products in the United States. On information and belief, Renesas offers the '691 Accused Products for sale in the United States. For example, Renesas engages in sales, marketing, and contracting activity in the United States and/or with United States offices of its customers.

178. The '691 Accused Products are manufactured by a process including all of the limitations of at least claim 1 of the '691 patent. The '691 Accused Products are made by a claimed method. Each is an integrated circuit fabricated or manufactured using, for example, Applied Materials' E3 system and/or PDF Solutions' Exensio system. For example, during the manufacture of the '691 Accused Products (e.g., by Applied Materials' E3 system and/or PDF Solutions' Exensio system or similar systems (e.g., with similar technical and functional features)), metrology data related to the processing of workpieces in a plurality of tools is collected. Context data for the metrology data, including collection purpose data, is collected. The metrology data is filtered based on the collection purpose data. A process control activity related to one of the tools is conducted based on the filtered metrology data. On information and belief, Renesas, directly or through one of its Foundry Partners, contracted with Applied Materials to use this process to design, develop, or manufacture the '691 Accused Products.

179. Attached hereto as Exhibits N and O, and incorporated by reference herein, are claim charts detailing how each of the '691 Accused Products, manufactured using Applied Materials' E3 system and/or PDF Solutions' Exensio system by a Renesas Foundry Partner on behalf of Renesas (e.g., TSMC and/or UMC) or by Renesas (to the extent that any of such systems is used at Renesas's own manufacturing facilities), satisfies each element of at least claim 1 of the '691 patent, literally or under the doctrine of equivalents.

180. On information and belief, the '691 Accused Products are neither materially changed by subsequent processes nor become trivial and nonessential components of another product.

181. On information and belief, at least as of November 25, 2020, Renesas has induced and continues to induce others, including its suppliers and contract manufacturers, to infringe one or more claims of the '691 patent, including, but not limited to, claim 1, pursuant to 35 U.S.C. § 271(b), by actively encouraging others to import into the United States, and/or make, use, sell, and/or offer to sell in the United States, the '691 Accused Products or products containing the infringing semiconductor components of the '691 Accused Products, by actively inducing others to infringe the '691 patent by making, using, selling, offering for sale, marketing, advertising, and/or importing the Accused Products to their customers for use in downstream products that infringe, or were manufactured using processes that infringe, the '691 patent, and by instructing others to infringe the '691 patent.

182. For example, Renesas actively promotes the sale, use, and importation of the '691 Accused Products in marketing materials, technical specifications, data sheets, web pages on its website (e.g., <https://www.renesas.com/>), press releases, training tutorials, development and design tools, user manuals, and developer forums as well as at trade shows (e.g., the Consumer Technology Association's Consumer Electronics Show ("CES")) and through its sales and distribution channels that encourage infringing uses, sales, offers to sell, and importation of the '691 Accused Products. On information and belief, Renesas supplies customers with '691 Accused Products so that they may be used, sold, or offered for sale by those customers. On information and belief, these direct sales include sales to customers in the United States. Renesas additionally provides a wide range of technical support to customers, including product-

specific technical support (e.g., <https://www.renesas.com/us/en/support/contact.html>) and discussion forums (e.g., <https://renesasrslz.com/>). Renesas also promotes, publicly on its website, uses of the '691 Accused Products by customers in the United States.

183. On information and belief, Renesas sells or offers for sale the '691 Accused Products to third parties that incorporate the '691 Accused Products into third party products ("the '691 Third Party Products").

184. On information and belief, Renesas assists third parties, directly and/or through intermediaries, in the development and manufacture of the '691 Third Party Products and provides technical support and supports the sales of the '691 Third Party Products.

185. On information and belief, at least as of November 25, 2020, Renesas also has induced and continues to induce third parties with specific intent or willful blindness to import, make, use, sell, and/or offer to sell '691 Third Party Products that include at least one '691 Accused Product fabricated or manufactured using Applied Materials' E3 system and/or PDF Solutions' Exensio system or similar systems (e.g., with similar technical and functional features) whose make, use, sale, offer for sale, or importation constitutes direct infringement of at least one claim of the '691 patent.

186. On information and belief, the '691 Third Party Products are imported into the United States for use, sale, and/or offer for sale in this District and throughout the United States ("Imported '691 Third Party Products").

187. On information and belief, to the extent any entity other than Renesas, including but not limited to any of Renesas's Foundry Partners or third-party importers, imports the '691 Accused Products and/or Imported '691 Third-Party Products into the United States for or on behalf of Renesas ("Third Party Importer"), Renesas is liable for inducement of infringement by

the Third Party Importer. Renesas has encouraged the Third Party Importer to infringe the '691 patent and intended that it do so. This encouragement includes at least ordering or instructing the Third Party Importer to import the '691 Accused Products and/or '691 Third-Party Products into the United States, providing directions and other materials to the Third Party Importer to enable such importation, and/or conditioning the receipt of benefits (included but not limited to payment) to the Third Party Importer on such importation. On information and belief, this behavior has continued since Defendant first became aware of the '691 patent and the infringement thereof.

188. On information and belief, to the extent any entity other than Renesas, including but not limited to any of Renesas's Foundry Partners, uses the patented method to fabricate or manufacture the '691 Accused Products and/or Imported '691 Third-Party Products in the United States for or on behalf of Renesas ("Third Party Manufacturer"), Renesas is liable for inducement of infringement by the Third Party Manufacturer. Renesas has encouraged the Third Party Manufacturer to infringe the '691 patent and intended that it do so. This encouragement includes, without limitation, ordering the '691 Accused Products from the Third Party Manufacturer since Defendant first became aware of the '691 patent and its infringement by the Third Party Manufacturer.

189. Renesas has benefitted and continues to benefit from the importation into the United States of the Imported '691 Third Party Products.

190. Ocean Semiconductor has suffered, and continues to suffer, damages as a result of Renesas's infringement of the '691 patent.

191. Renesas has continued to infringe the '691 patent since at least November 25, 2020, despite being on notice of the '691 patent and its infringement. Renesas has therefore

infringed the '691 patent knowingly, willfully, deliberately, and in disregard of Plaintiff's patent rights since at least November 25, 2020, at least by performing acts of infringement with actual knowledge of its direct and indirect infringement or while remaining willfully blind to the fact of its direct and indirect infringement. As a result of at least this conduct, Plaintiff is entitled to enhanced damages under 35 U.S.C. § 284 and to attorneys' fees and costs under 35 U.S.C. § 285.

192. Ocean Semiconductor reserves the right to modify its infringement theories as discovery progresses in this case. Ocean Semiconductor shall not be estopped or otherwise limited or restricted for purposes of its infringement contentions or its claim constructions by the claim charts that it provides with this Complaint. Ocean Semiconductor intends the claim chart (Exhibits N and O) for the '691 patent to satisfy the notice requirements of Rule 8(a)(2) of the Federal Rule of Civil Procedure. The claim chart is not Ocean Semiconductor's preliminary or final infringement contentions or preliminary or final claim construction positions.

COUNT VII: INFRINGEMENT OF THE '538 PATENT

193. Ocean Semiconductor repeats and re-alleges the allegations of the above paragraphs as if fully set forth herein.

194. At least as of November 25, 2020, Ocean Semiconductor placed Renesas on actual notice of the '538 patent and actual notice that its actions constituted and continued to constitute infringement of the '538 patent. Renesas has had actual knowledge of the '538 patent and its own infringement of the '538 patent since at least that time.

195. Renesas has directly infringed and continues to infringe at least claim 1 of the '538 patent literally or under the doctrine of equivalents, by importing into the United States, and/or using, and/or selling, and/or offering for sale in the United States, without authority or license, integrated circuits designed, developed, fabricated, and/or manufactured using Applied

Materials' E3 system, PDF Solutions' Exensio system, and/or similar systems (e.g., with similar technical and functional features), and systems, products, and/or devices containing these integrated circuits including at least the Renesas APC Products ("’538 Accused Products") in violation of 35 U.S.C. § 271. The ’538 Accused Products are manufactured by a process including all of the limitations of at least claim 1 of the ’538 patent. Each such product includes an integrated circuit fabricated or manufactured using, for example, Applied Materials' E3 system and/or PDF Solutions' Exensio system

196. Discovery is expected to uncover the full extent of Renesas's infringement of the ’538 patent beyond the ’538 Accused Products already identified herein.

197. On information and belief, Renesas has directly infringed and continues to infringe at least claim 1 of the ’538 patent literally or under the doctrine of equivalents, by importing into the United States, and/or using, and/or selling, and/or offering for sale in the United States, without authority or license, the ’538 Accused Products, in violation of 35 U.S.C. § 271(g). On information and belief, Renesas imports the ’538 Accused Products into the United States for sales and distribution to customers located in the United States. On information and belief, Renesas sells and/or offers for sale the ’538 Accused Products in the United States. For example, Renesas provides direct sales through its own sales channels and/or its distributors or contract manufacturers and sells the ’538 Accused Products to businesses including original equipment manufacturers and electronic manufacturing service providers. On information and belief, these direct sales include sales of the ’538 Accused Products in the United States. On information and belief, Renesas offers the ’538 Accused Products for sale in the United States. For example, Renesas engages in sales, marketing, and contracting activity in the United States and/or with United States offices of its customers.

198. The '538 Accused Products are manufactured by a process including all of the limitations of at least claim 1 of the '538 patent. The '538 Accused Products are made by a claimed method. Each is an integrated circuit fabricated or manufactured using, for example, Applied Materials' E3 system and/or PDF Solutions' Exensio system. For example, during the manufacture of the '538 Accused Products (e.g., by Applied Materials' E3 system and/or PDF Solutions' Exensio system or similar system (e.g., with similar technical and functional features)), a computer a fault detection analysis relating to processing of a workpiece is performed. A relationship of a parameter relating to said fault detection analysis to a detected fault is determined in the computer. A weighting of said parameter based upon said relationship of said parameter to said detected fault is adjusted in said computer. The fault detection analysis relating to processing of a subsequent workpiece using said adjusted weighting is performed in said computer. On information and belief, Renesas, directly or through one of its Foundry Partners (e.g., TSMC and/or UMC), contracted with Applied Materials or PDF Solutions to use this process to design, develop, or manufacture the '538 Accused Products.

199. Attached hereto as Exhibits P and Q, and incorporated by reference herein, are claim charts detailing how each of the '538 Accused Products, manufactured using Applied Materials' E3 system and/or PDF Solutions' Exensio system by a Renesas Foundry Partner on behalf of Renesas (e.g., TSMC and/or UMC) or by Renesas (to the extent that any of such systems is used at Renesas's own manufacturing facilities), satisfies each element of at least claim 1 of the '538 patent, literally or under the doctrine of equivalents.

200. On information and belief, the '538 Accused Products are neither materially changed by subsequent processes nor become trivial and nonessential components of another product.

201. On information and belief, at least as of November 25, 2020, Renesas has induced and continues to induce others, including its suppliers and contract manufacturers, to infringe one or more claims of the '538 patent, including, but not limited to, claim 1, pursuant to 35 U.S.C. § 271(b), by actively encouraging others to import into the United States, and/or make, use, sell, and/or offer to sell in the United States, the '538 Accused Products or products containing the infringing semiconductor components of the '538 Accused Products, by actively inducing others to infringe the '538 patent by making, using, selling, offering for sale, marketing, advertising, and/or importing the Accused Products to their customers for use in downstream products that infringe, or were manufactured using processes that infringe, the '538 patent, and by instructing others to infringe the '538 patent.

202. For example, Renesas actively promotes the sale, use, and importation of the '538 Accused Products in marketing materials, technical specifications, data sheets, web pages on its website (e.g., <https://www.renesas.com/>), press releases, training tutorials, development and design tools, user manuals, and developer forums as well as at trade shows (e.g., the Consumer Technology Association's Consumer Electronics Show ("CES")) and through its sales and distribution channels that encourage infringing uses, sales, offers to sell, and importation of the '538 Accused Products. On information and belief, Renesas supplies customers with '538 Accused Products so that they may be used, sold, or offered for sale by those customers. On information and belief, these direct sales include sales to customers in the United States. Renesas additionally provides a wide range of technical support to customers, including product-specific technical support (e.g., <https://www.renesas.com/us/en/support/contact.html>) and discussion forums (e.g., <https://renesasrulz.com/>). Renesas also promotes, publicly on its website, uses of the '538 Accused Products by customers in the United States.

203. On information and belief, Renesas sells or offers for sale the '538 Accused Products to third parties that incorporate the '538 Accused Products into third party products ("the '538 Third Party Products").

204. On information and belief, Renesas assists third parties, directly and/or through intermediaries, in the development and manufacture of the '538 Third Party Products and provides technical support and supports the sales of the '538 Third Party Products.

205. On information and belief, at least as of November 25, 2020, Renesas also has induced and continues to induce third parties with specific intent or willful blindness to import, make, use, sell, and/or offer to sell '538 Third Party Products that include at least one '538 Accused Product fabricated or manufactured using Applied Materials' E3 system and/or PDF Solutions' Exensio system or similar systems (e.g., with similar technical and functional features) whose make, use, sale, offer for sale, or importation constitutes direct infringement of at least one claim of the '538 patent.

206. On information and belief, the '538 Third Party Products are imported into the United States for use, sale, and/or offer for sale in this District and throughout the United States ("Imported '538 Third Party Products").

207. On information and belief, to the extent any entity other than Renesas, including but not limited to any of Renesas's Foundry Partners or third-party importers, imports the '538 Accused Products and/or Imported '538 Third-Party Products into the United States for or on behalf of Renesas ("Third Party Importer"), Renesas is liable for inducement of infringement by the Third Party Importer. Renesas has encouraged the Third Party Importer to infringe the '538 patent and intended that it do so. This encouragement includes at least ordering or instructing the Third Party Importer to import the '538 Accused Products and/or '538 Third-Party Products

into the United States, providing directions and other materials to the Third Party Importer to enable such importation, and/or conditioning the receipt of benefits (included but not limited to payment) to the Third Party Importer on such importation. On information and belief, this behavior has continued since Defendant first became aware of the '538 patent and the infringement thereof.

208. On information and belief, to the extent any entity other than Renesas, including but not limited to any of Renesas's Foundry Partners, uses the patented method to fabricate or manufacture the '538 Accused Products and/or Imported '538 Third-Party Products in the United States for or on behalf of Renesas ("Third Party Manufacturer"), Renesas is liable for inducement of infringement by the Third Party Manufacturer. Renesas has encouraged the Third Party Manufacturer to infringe the '538 patent and intended that it do so. This encouragement includes, without limitation, ordering the '538 Accused Products from the Third Party Manufacturer since Defendant first became aware of the '538 patent and its infringement by the Third Party Manufacturer.

209. Renesas has benefitted and continues to benefit from the importation into the United States of the Imported '538 Third Party Products.

210. Ocean Semiconductor has suffered, and continues to suffer, damages as a result of Renesas's infringement of the '538 patent.

211. Renesas has continued to infringe the '538 patent since at least November 25, 2020, despite being on notice of the '538 patent and its infringement. Renesas has therefore infringed the '538 patent knowingly, willfully, deliberately, and in disregard of Plaintiff's patent rights since at least November 25, 2020, at least by performing acts of infringement with actual knowledge of its direct and indirect infringement or while remaining willfully blind to the fact of

its direct and indirect infringement. As a result of at least this conduct, Plaintiff is entitled to enhanced damages under 35 U.S.C. § 284 and to attorneys' fees and costs under 35 U.S.C. § 285.

212. Ocean Semiconductor reserves the right to modify its infringement theories as discovery progresses in this case. Ocean Semiconductor shall not be estopped or otherwise limited or restricted for purposes of its infringement contentions or its claim constructions by the claim charts that it provides with this Complaint. Ocean Semiconductor intends the claim chart (Exhibits P and Q) for the '538 patent to satisfy the notice requirements of Rule 8(a)(2) of the Federal Rule of Civil Procedure. The claim chart is not Ocean Semiconductor's preliminary or final infringement contentions or preliminary or final claim construction positions.

RELIEF REQUESTED

WHEREFORE, Ocean Semiconductor demands judgment for itself and against Renesas as follows:

- A. A judgment that Defendant Renesas has infringed, and continues to infringe, one or more claims of each of the Asserted Patents;
- B. A judgment that Defendant Renesas has induced infringement, and continues to induce infringement, of one or more claims of each of the Asserted Patents;
- C. A judgment that Defendant Renesas has contributed to, and continues to contribute to, the infringement of one or more claims of each of the Asserted Patents;
- D. A judgment awarding Ocean Semiconductor damages to be paid by Defendant Renesas in an amount to be proven at trial adequate to compensate Ocean Semiconductor for Renesas' past infringement and any continuing or future infringement through the date such judgment is entered, but in no event less than a reasonable royalty for Renesas's infringement;

E. A judgment awarding Ocean Semiconductor treble damages pursuant to 35 U.S.C. § 284 as a result of Defendant Renesas's willfulness;

F. A judgment and order finding that this case is exceptional and awarding Ocean Semiconductor its reasonable attorneys' fees to be paid by Defendant Renesas as provided by 35 U.S.C. § 285;

G. A judgment awarding expenses, costs, and disbursements in this action against Defendant Renesas, including pre-judgment and post-judgment interest; and

H. A judgment awarding Ocean Semiconductor such other relief as the Court may deem just and equitable.

JURY DEMAND

Pursuant to Federal Rule of Civil Procedure 38(b), Plaintiff hereby demands a trial by jury on all issues so triable.

Dated: December 31, 2020

Respectfully submitted,

By: /s/ Alex Chan
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